



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
<http://www.epa.gov/region08>

AUG 07 2015

Ref: 8ENF-UFO

CERTIFIED MAIL 7009-3410-0000-2600-8435
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, Utah 84066

Re: Underground Injection Control (UIC)
Permission to Resume Injection
Tribal 19-11 Well
EPA Permit ID# UT20736-04521
API # 43-013-31967
Antelope Creek Oil Field
Duchesne County, Utah

Dear Mr. Farnsworth:

On August 4, 2015, the Environmental Protection Agency (EPA) received information from Petroglyph Operating Company, Inc. on the above referenced well concerning the workover to address a loss of mechanical integrity and the followup mechanical integrity test (MIT) conducted on July 27, 2015. The data submitted shows that the well passed the required MIT. Therefore, pursuant to Title 40 of the Code of Federal Regulations Section 144.51(q)(2) (40 C.F.R. § 144.51(q)(2)), permission to resume injection is granted. Under continuous service, the next MIT will be due on or before July 27, 2020.

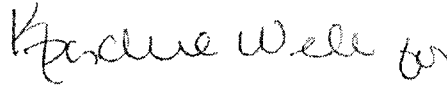
Pursuant to 40 C.F.R. § 144.52(a)(6), if the well is not used for a period of at least two (2) years ("temporary abandonment"), it shall be plugged and abandoned unless the EPA is notified and procedures are described to the EPA ensuring the well will not endanger underground sources of drinking water ("non-endangerment demonstration") during its continued temporary abandonment. A successful MIT is an acceptable non-endangerment demonstration and would be necessary every two (2) years the well continues in temporary abandonment.

Failure to comply with a UIC Permit, or the UIC regulations found at 40 C.F.R. Parts 144 through 148 constitute one or more violations of the Safe Drinking Water Act, 42 U.S.C. § 300h. Such non-compliance may subject you to formal enforcement by the EPA, as codified at 40 C.F.R. Part 22.

	GREEN	BLUE	CB
TAB		1	

If you have any questions concerning this letter, you may contact Gary Wang at (303) 312-6469. Please direct all correspondence to the attention of Gary Wang at Mail Code 8ENF-UFO.

Sincerely,

A handwritten signature in dark ink, appearing to read "Arturo Palomares". The signature is fluid and cursive, with a small "for" written at the end.

Arturo Palomares, Director
Water Technical Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice

cc: Shaun Chapoose, Chairman, Uintah & Ouray Business Committee
Edred Secakuku, Vice-Chairman, Uintah & Ouray Business Committee
Reannin Tapoof, Executive Assistant, Uintah & Ouray Business Committee

bcc: Jennifer Harris (8P-TA)
Kimberly Pardue-Welch (8ENF-W)
Gary Wang (8ENF-UFO)

Cc addresses:

Shaun Chapoose, Chairman
Uintah & Ouray Business Committee
P.O. Box 70
Fort Duchesne, Utah 84026

Edred Secakuku, Vice-Chairman
Uintah & Ouray Business Committee
P.O. Box 70
Fort Duchesne, Utah 84026

Reannin Tapoof, Executive Assistant
Uintah & Ouray Business Committee
P.O. Box 70
Fort Duchesne, Utah 84026

Brad Hill
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none">Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.Print your name and address on the reverse so that we can return the card to you.Attach this card to the back of the mailpiece, or on the front if space permits.		<p>A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) <u>Julie Ray</u></p> <p>C. Date of Delivery <u>08-14-15</u></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>	
1. Article Addressed to: <u>AUG 10 2015</u> Mr. Les Farnsworth, District Supervisor Petroglyph Operating Company, Inc. 4116 W 3000 S Ioka Lane P.O. Box 607 Roosevelt, UT 84066		3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
2. Article Number (Transfer from service label)		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
7009 3410 0000 2600 8435			

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)	
For delivery information visit our website at www.usps.com	
OFFICIAL USE	
Postage \$	Postmark Here
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage	
Sent To	Mr. Les Farnsworth, District Supervisor Petroglyph Operating Company, Inc. 4116 W 3000 S Ioka Lane P.O. Box 607 Roosevelt, UT 84066
Street, Apt. No. or PO Box No.	
City, State, Zip	
PS Form 3800, August 2006 See Reverse for Instructions	

7009 3410 0000 2600 8435



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
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Ref: 8ENF-UFO

CONCURRENCE COPY

CERTIFIED MAIL 7009-3410-0000-2600-8435
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, Utah 84066

Re: Underground Injection Control (UIC)
Permission to Resume Injection
Tribal 19-11 Well
EPA Permit ID# UT20736-04521
API # 43-013-31967
Antelope Creek Oil Field
Duchesne County, Utah

Dear Mr. Farnsworth:

On August 4, 2015, the Environmental Protection Agency (EPA) received information from Petroglyph Operating Company, Inc. on the above referenced well concerning the workover to address a loss of mechanical integrity and the followup mechanical integrity test (MIT) conducted on July 27, 2015. The data submitted shows that the well passed the required MIT. Therefore, pursuant to Title 40 of the Code of Federal Regulations Section 144.51(q)(2) (40 C.F.R. § 144.51(q)(2)), permission to resume injection is granted. Under continuous service, the next MIT will be due on or before July 27, 2020.

Pursuant to 40 C.F.R. § 144.52(a)(6), if the well is not used for a period of at least two (2) years ("temporary abandonment"), it shall be plugged and abandoned unless the EPA is notified and procedures are described to the EPA ensuring the well will not endanger underground sources of drinking water ("non-endangerment demonstration") during its continued temporary abandonment. A successful MIT is an acceptable non-endangerment demonstration and would be necessary every two (2) years the well continues in temporary abandonment.

Failure to comply with a UIC Permit, or the UIC regulations found at 40 C.F.R. Parts 144 through 148 constitute one or more violations of the Safe Drinking Water Act, 42 U.S.C. § 300h. Such non-compliance may subject you to formal enforcement by the EPA, as codified at 40 C.F.R. Part 22.

CONCUR	Author + ext.	First initial + last name	KPW						
	<i>[Signature]</i>	Office code	8ENF-W						
	6/9/15	Date	8/7/15						

If you have any questions concerning this letter, you may contact Gary Wang at (303) 312-6469. Please direct all correspondence to the attention of Gary Wang at Mail Code 8ENF-UFO.

Sincerely,

Arturo Palomares, Director
Water Technical Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice

cc: Shaun Chapoose, Chairman, Uintah & Ouray Business Committee
Edred Secakuku, Vice-Chairman, Uintah & Ouray Business Committee
Reannin Tapoof, Executive Assistant, Uintah & Ouray Business Committee

bcc: Jennifer Harris (8P-TA)
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Gary Wang (8ENF-UFO)

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P.O. Box 70
Fort Duchesne, Utah 84026

Brad Hill
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114

ROUTING AND TRANSMITTAL SLIP

Date

08/05/15

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. Don Breffle	B	8/5/15
2. Joan Detty	JD	8/7/15
3. Kimberly Pardue-Welch	KPW	8/7/15
4. Art Palomares	KPW	8/7/15
5. Joan Detty - mail and fax - 435-823-1240	JD	8/7/15
6.		
7.		
8.		
9.		
10.		

<input type="checkbox"/> Action	<input type="checkbox"/> File	<input type="checkbox"/> Note and Return
<input type="checkbox"/> Approval	<input type="checkbox"/> For Clearance	<input type="checkbox"/> Per Conversation
<input type="checkbox"/> As Requested	<input type="checkbox"/> For Correction	<input type="checkbox"/> Prepare Reply
<input type="checkbox"/> Circulate	<input type="checkbox"/> For Your Information	<input type="checkbox"/> See Me
<input type="checkbox"/> Comment	<input type="checkbox"/> Investigate	<input checked="" type="checkbox"/> Signature
<input type="checkbox"/> Coordination	<input type="checkbox"/> Justify	

REMARKS

Petroglyph has repaired this well and is requesting permission to resume injection.

G:\UFO\UIC\UIC VITAL RECORDS\UIC CORRESPONDENCE\FY13
 \Reinject_Petroglyph_UT20736-04521_2015-08-05.doc

Before signature by the appropriate official, this enforcement matter requires confirmation by TEP and/or LEP staff that either: 1) it contains no information claimed to be Confidential Business Information (CBI); or 2) any such information has been redacted from any version of the document which may be distributed to anyone other than U.S. government personnel or the party claiming the information to be CBI. In addition, if there is a CBI claim, that fact must be noted prominently on the first page of the document. Initialing the slip above constitutes such confirmation by the ECEJ staff assigned to this matter.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Room No. - Bldg.

Phone No.

OPTIONAL FORM 41 (Rev. 1-94)
 Prescribed by GSA

Inspection Report For Well: UT20736 - 04521

U.S. Environmental Protection Agency
Underground Injection Control Program, 8ENF-T
999 18th Street, Suite 300, Denver, CO 80202-2466

This form was printed on 9/24/2013

INSPECTOR(S): Lead: Roberts, Sarah
Others: Ajayi, Christopher

Date: 12/11/2013

Time: 11:25 am

OPERATOR (only if different):

REPRESENTATIVE(S):

Chad Steinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name: Ute Tribal 19-11

Well Type: Enhanced Recovery (2R)

Operating Status: AC (ACTIVE) as of 12/31/2002

Oil Field: Antelope Creek (Duchesne)

Location: NESW S19 T5S R3W

Indian Country: X, Uintah and Ouray

Last Inspection: 8/29/2012

Allowable Inj Pressure: 1935 /

Last MIT: Pass 3/9/2010

Annulus Pressure From Last MIT: 1300

BLACK = POSSIBLE VIOLATION

GREY = DATA MISSING

INSPECTION TYPE:
(Select One)

☐ Construction / Workover

☐ Response to Complaint

☐ Other

☐ Plugging

☒ Routine

ICIS Entered

☐ Post-Closure

☐ Witness MIT

Date 1/2/14

Initials DB

OBSERVED VALUES:

Tubing Gauge:

☒ Yes
☐ No

Pressure: U: 1855 L: psig

Gauge Range: Scada psig

Gauge Owner: ☐ EPA

☒ Operator

Annulus Gauge:

☒ Yes
☐ No

Pressure: 0 psig

Gauge Range: opened psig

Gauge Owner: ☒ EPA

☐ Operator

Bradenhead Gauge:

☐ Yes
☐ No

Pressure: psig

Gauge Range: psig

Gauge Owner: ☐ EPA

☐ Operator

Pump Gauge:

☐ Yes
☐ No

Pressure: psig

Gauge Range: psig

Gauge Owner: ☐ EPA

☐ Operator

Operating Status:
(Select One)

☒ Active
☐ Being Reworked

☐ Not Injecting
☐ Production

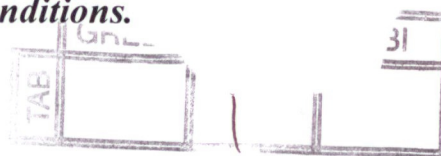
☐ Plugged and Abandoned
☐ Under Construction

U2 Entered

Date 12/17/13

Initial 87

See page 2 for photos, comments, and site conditions.



Inspection Report For Well: UT20736 - 04521 (PAGE 2)

PHOTOGRAPHS:

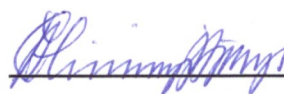
☐ Yes
☒ No

List of photos taken: _____

Comments and site conditions observed during inspection:

GPS: GPS File ID: _____

Signature of EPA Inspector(s):



☐ Data Entry

☐ Compliance Staff

☐ Hard Copy Filing

NOTICE OF INSPECTION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, 999 18TH STREET - SUITE 500
DENVER, COLORADO 80202-2405

Date: 12/10/13

Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300f et seq.).

Hour: 8:00a

Firm Name: Petroglyph Operating, Inc.

Firm Address: Roosevelt, UT, Antelope Creek Oil Field

REASON FOR INSPECTION:

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable condition of permit or rule authorization.

SECTION 1445(b) of the SAFE DRINKING WATER ACT is quoted below:

Section 1445(b)(1): Except as provided in Paragraph (2), the Administrator, or representatives of the Administrator duly designated by him, upon presenting appropriate credentials, and a written notice to any supplier of water or other person subject to (a), or person subject (A) a national primary drinking water regulation prescribed under Section 1412(B) an applicable Underground Injection Control Program, or (C) any requirement to monitor an unregulated contaminant pursuant to subsection (a), or person in charge of any of the property of such supplier or other person referred to in clause (A), (B), or (C), is authorized to enter any establishment, ... facility, or other property of such supplier or other person in order to determine whether such supplier or other person has acted or is acting in compliance with this title, including for this purpose, inspection, at reasonable times, of records, files, papers, processes, controls, and facilities, or in order to test any feature of a public water system, including its raw water source. The Administrator or the Comptroller General (or any representative designated by either) shall have access for the purpose of audit and examination to any records, reports, or information of a grantee which are required to be maintained under subsection (a) or which are pertinent to any financial assistance under this title.

Sarah Roberts

Inspector's Name & Title (Print)

[Signature]
Inspector's Signature



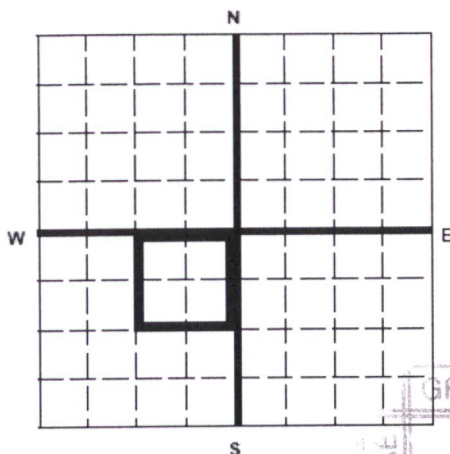
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



State
Utah

County
Duchesne

Permit Number
UT2736-04521

Surface Location Description

1/4 of 1/4 of NE 1/4 of SW 1/4 of Section 19 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location 2226 ft. from (N/S) S Line of quarter section
and 1484 ft. from (E/W) W Line of quarter section.

U2 Entered

WELL ACTIVITY

- ☐ Brine Disposal
☒ Enhanced Recovery
☐ Hydrocarbon Storage

TYPE OF PERMIT

- ☐ Individual
☒ Area

Number of Wells 111

Date 4/4/17

Initial JS

Lease Name Ute Indian Tribe

Well Number UTE TRIBAL 19-11

INJECTION PRESSURE

TOTAL VOLUME INJECTED

TUBING - CASING ANNULUS PRESSURE
(OPTIONAL MONITORING)

MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	16	1881	1894	2077		0	0
February	16	1880	1899	1704		0	0
March	16	1897	1901	1758		0	0
April	16	1869	1889	1405		0	0
May	16	1875	1890	1479		0	0
June	16	1859	1887	1335		0	0
July	16	1872	1882	1285		0	0
August	16	1874	1878	1317		0	0
September	16	1862	1879	1220		0	0
October	16	1863	1878	1320		0	0
November	16	1830	1850	1094		0	0
December	16	1844	1855	1276		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Chad Stevenson, Water Facilities Supervisor

Signature

Date Signed

03/21/2017

Multi-Chem Analytical Laboratory

1553 East Highway 40

Vernal, UT 84078

Units of Measurement: Standard

multi-chem®

A HALLIBURTON SERVICE

Water Analysis Report

Production Company: PETROGLYPH OPERATING CO INC - EBUS

Sales Rep: James Patry

Well Name: UTE TRIBAL 19-11 INJ, DUCHESNE

Lab Tech: Kaitlyn Natelli

Sample Point: Well Head

Sample Date: 1/6/2017

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample ID: WA-345303

Sample Specifics		Analysis @ Properties in Sample Specifics			
		Cations	mg/L	Anions	mg/L
Test Date:	1/25/2017	Sodium (Na):	30.34	Chloride (Cl):	449.00
System Temperature 1 (°F):	300	Potassium (K):	5.16	Sulfate (SO ₄):	90.00
System Pressure 1 (psig):	2000	Magnesium (Mg):	25.20	Bicarbonate (HCO ₃):	732.00
System Temperature 2 (°F):	130	Calcium (Ca):	47.80	Carbonate (CO ₃):	
System Pressure 2 (psig):	50	Strontium (Sr):	1.22	Hydroxide (HO):	
Calculated Density (g/ml):	0.9988	Barium (Ba):	1.90	Acetic Acid (CH ₃ COO)	
pH:	7.00	Iron (Fe):	365.33	Propionic Acid (C ₂ H ₅ COO)	
Calculated TDS (mg/L):	2005.91	Zinc (Zn):	244.17	Butanoic Acid (C ₃ H ₇ COO)	
CO ₂ in Gas (%):		Lead (Pb):	0.01	Isobutyric Acid ((CH ₃) ₂ CHCOO)	
Dissolved CO ₂ (mg/L):	148.00	Ammonia NH ₃ :		Fluoride (F):	
H ₂ S in Gas (%):		Manganese (Mn):	0.43	Bromine (Br):	
H ₂ S in Water (mg/L):	10.00	Aluminum (Al):	0.51	Silica (SiO ₂):	13.35
Tot. Suspended Solids (mg/L):		Lithium (Li):	2.69	Calcium Carbonate (CaCO ₃):	
Corrosivity (Langlier Sat. Indx)	0.00	Boron (B):	1.12	Phosphates (PO ₄):	12.23
Alkalinity:		Silicon (Si):	6.24	Oxygen (O ₂):	

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO ₄ ·2H ₂ O		Celestite SrSO ₄		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.17	8.72	0.90	0.98	4.17	9.32	3.09	216.04	0.00	0.00	0.00	0.00	0.00	0.00	11.67	10.33
149.00	267.00	0.25	12.41	0.80	0.95	4.15	9.32	3.21	218.62	0.00	0.00	0.00	0.00	0.00	0.00	11.45	10.33
168.00	483.00	0.38	17.65	0.73	0.92	4.20	9.32	3.36	221.69	0.00	0.00	0.00	0.00	0.00	0.00	11.30	10.33
187.00	700.00	0.52	22.59	0.68	0.89	4.27	9.32	3.51	224.40	0.00	0.00	0.00	0.00	0.00	0.00	11.18	10.33
206.00	917.00	0.66	27.01	0.65	0.87	4.36	9.32	3.66	226.77	0.00	0.00	0.00	0.00	0.00	0.00	11.08	10.33
224.00	1133.00	0.82	30.79	0.63	0.86	4.47	9.32	3.80	228.85	0.00	0.00	0.00	0.00	0.00	0.00	11.00	10.33
243.00	1350.00	0.99	33.87	0.62	0.86	4.59	9.32	3.95	230.65	0.00	0.00	0.00	0.00	0.00	0.00	10.95	10.33
262.00	1567.00	1.16	36.25	0.63	0.86	4.73	9.32	4.09	232.22	0.00	0.00	0.00	0.00	0.00	0.00	10.91	10.33
281.00	1783.00	1.34	38.03	0.65	0.87	4.88	9.32	4.22	233.57	0.00	0.00	0.00	0.00	0.00	0.00	10.89	10.33
300.00	2000.00	1.52	39.29	0.67	0.89	5.04	9.32	4.35	234.75	0.00	0.00	0.00	0.00	0.00	0.00	10.89	10.33

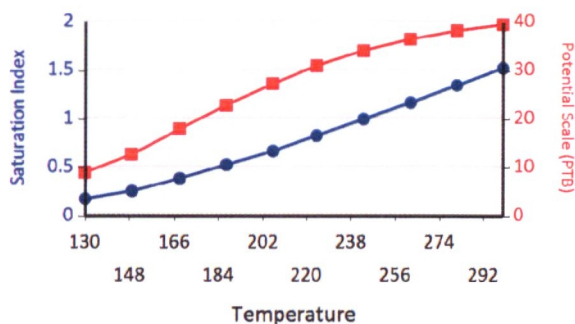
Water Analysis Report

Temp (°F)	PSI	Hemihydrate CaSO ₄ ·0.5H ₂ O		Anhydrate CaSO ₄		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.68	159.40	8.99	0.00	0.00	0.00	0.00	0.00	7.56	30.94
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	2.91	161.23	8.59	0.00	0.00	0.00	0.00	0.00	8.15	30.96
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	3.16	162.46	8.28	0.00	0.00	0.00	0.00	0.00	8.98	30.96
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40	163.16	8.02	0.00	0.00	0.00	0.00	0.00	9.83	30.97
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	3.61	163.55	7.79	0.00	0.34	3.71	0.00	0.00	10.69	30.97
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	3.82	163.78	7.59	0.00	1.42	13.96	0.00	0.00	11.57	30.97
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01	163.92	7.42	0.00	2.48	22.17	0.54	5.42	12.46	30.97
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	4.18	164.00	7.28	0.00	3.54	28.05	1.19	10.42	13.35	30.97
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	4.35	164.06	7.17	0.00	4.58	31.69	1.84	13.80	14.24	30.97
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	4.49	164.09	7.07	0.00	5.60	33.53	2.48	15.83	15.13	30.97

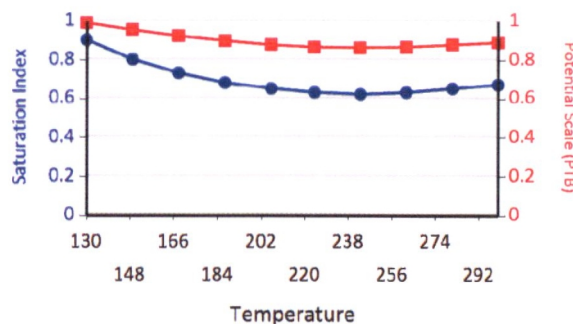
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

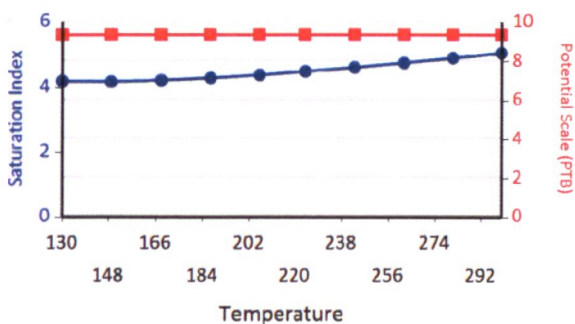
Calcium Carbonate



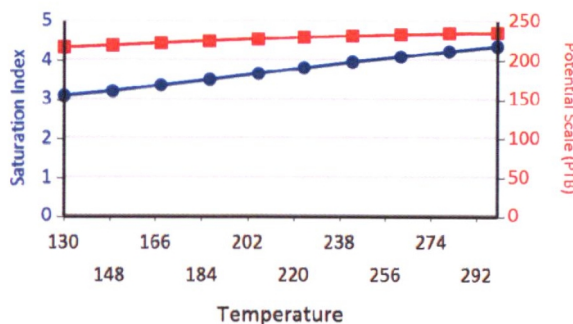
Barium Sulfate



Iron Sulfide

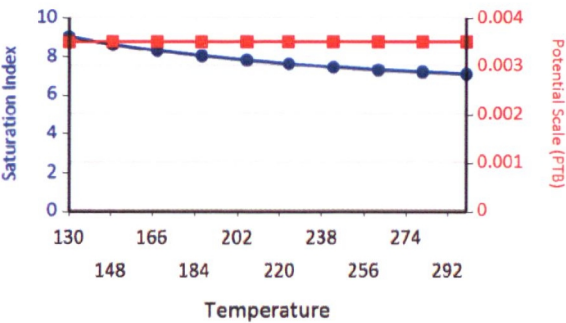


Iron Carbonate

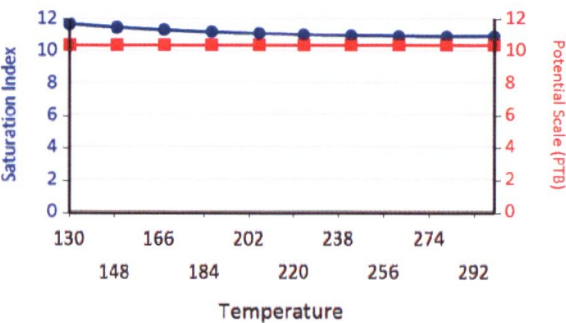


Water Analysis Report

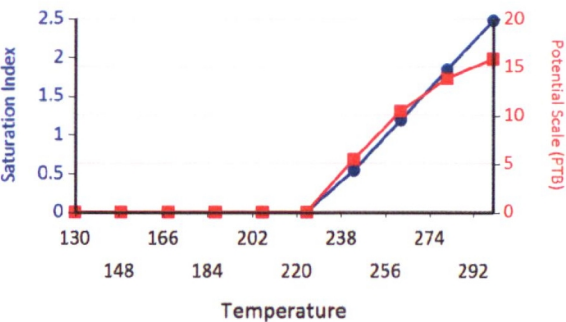
Lead Sulfide



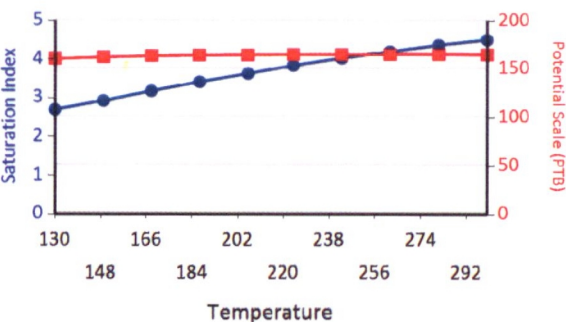
Zinc Sulfide



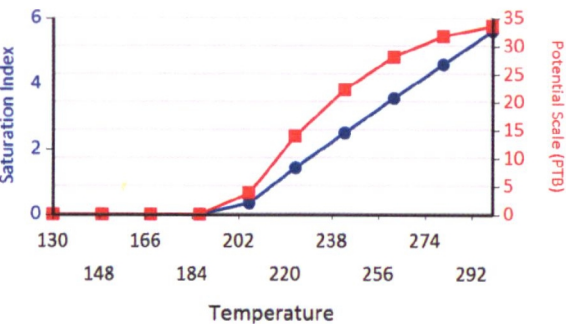
Ca Mg Silicate



Zinc Carbonate

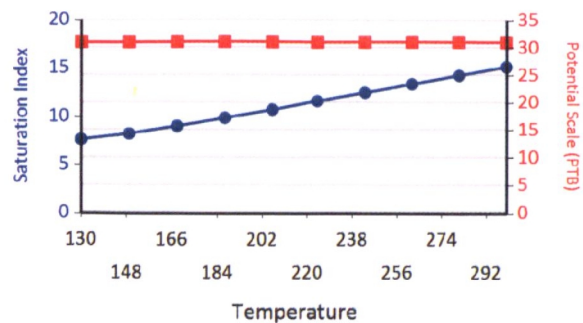


Mg Silicate



Water Analysis Report

Fe Silicate





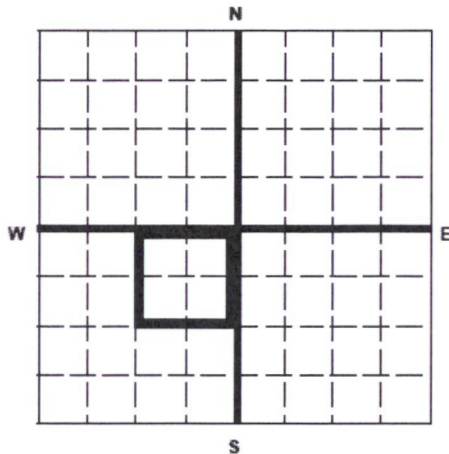
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



State
Utah

County
Duchesne

Permit Number
UT2736-04494 04521

Surface Location Description

1/4 of 1/4 of NE 1/4 of SW 1/4 of Section 19 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location 2226 ft. from (N/S) S Line of quarter section
and 1484 ft. from (E/W) W Line of quarter section.

U2 Entered

WELL ACTIVITY

- ☐ Brine Disposal
☒ Enhanced Recovery
☐ Hydrocarbon Storage

TYPE OF PERMIT

- ☐ Individual
☒ Area

Number of Wells 111

Date 3/2/16
Initial B

Lease Name Ute Indian Tribe

Well Number UTE TRIBAL 19-11

INJECTION PRESSURE

TOTAL VOLUME INJECTED

TUBING - CASING ANNULUS PRESSURE (OPTIONAL MONITORING)

MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	15	1829	1849	1216		0	0
February	15	1838	1862	1125		0	0
March	15	1874	1882	1428		0	0
April	15	1850	1882	1268		0	0
May	15	1751	1888	638		0	1840
June	15	1240	1369	0		0	1410
July	15	433	1158	0		0	2250
August	15	1154	1651	540		0	0
September	15	1571	1686	1394		0	0
October	15	1786	1824	2877		0	0
November	15	1854	1879	2658		0	0
December	15	1882	1894	2628		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

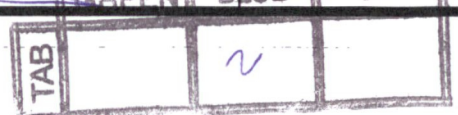
Name and Official Title (Please type or print)

Chad Stevenson, Water Facilities Supervisor

Signature

Date Signed

02/08/2016



Petroglyph Operating Company, Inc.
Annulus Pressure Cause and Mitigation Measures
EPA Annual Injection Report for Reporting Period 2015

Well Name: Ute Tribal 19-11

UIC Permit Number: UT2736-04521

API Number: 43-013-31967

Cause of Pressure and Mitigation Measures:

This well lost mechanical integrity on May 20, 2015, and was shut in until August 2015. A rig was placed on the well on July 13, 2015, and a successful Mechanical Integrity Test performed and submitted July 28, 2015. Injection resumed August 18, 2015.

Please see copy of attached notices and successful MIT test submitted to EPA on July 28, 2015.



March 18, 2015

Don Breffle
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: EPA AREA PERMIT NO. UT2736-04521
Mechanical Integrity Test
Standard Five year retesting for Ute Tribal 19-11

Mr. Breffle:

The enclosed Mechanical Integrity Test was performed on the above referenced well on March 8, 2015. This MIT was performed because the well was due for the regular five year Mechanical Integrity Test.

If you need any more information please call at (435) 722-5302.

Sincerely,
Petroglyph Operating Co., Inc.

Rodrigo Jurado
Regulatory Compliance Specialist

Encl: MIT for the Ute Tribal 19-11

Mechanical Integrity Test Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 3, 8, 15
Test conducted by: CHAD STEVENSON
Others present: _____

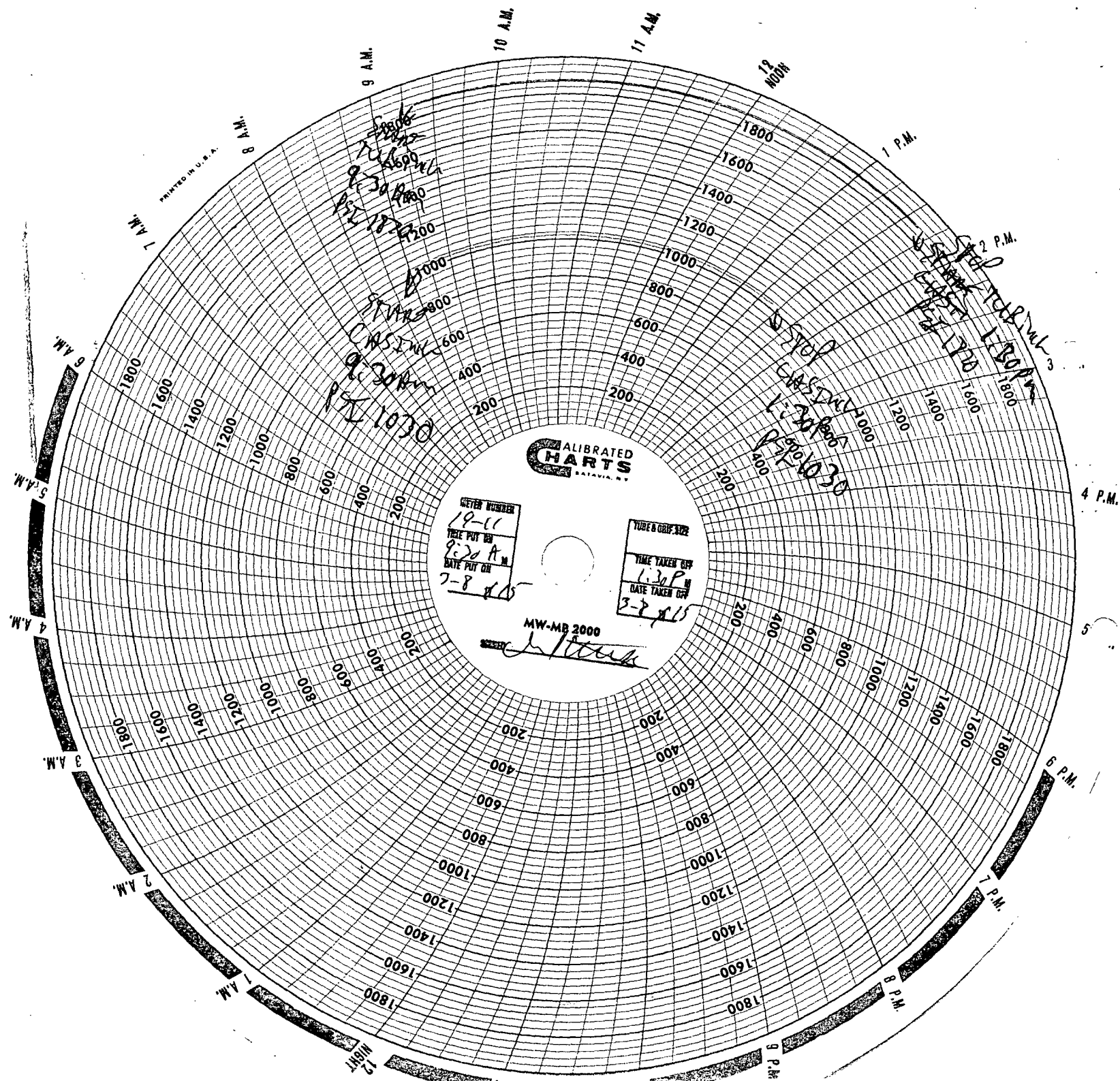
Well Name: <u>19-11</u>	Type: ER SWD	Status: AC TA UC
Field: <u>ANTELOPE CREEK</u>		
Location: <u>19-11</u> Sec: _____ T _____ N / S R _____ E / W	County: <u>DUCHESNE</u> State: <u>UT</u>	
Operator: <u>RETROGLYPH ENERGY</u>		
Last MIT: _____	Maximum Allowable Pressure: _____	PSIG

Regularly scheduled test? ☒ Yes ☐ No
Initial test for permit? ☐ Yes ☐ No
Test after well rework? ☐ Yes ☐ No

Well injecting during test? If Yes, rate: 41 bpd
Pre-test annulus pressure: _____ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING	PRESSURE RECORD		
Initial Pressure	<u>1870</u> psig	psig	psig
End of test pressure	<u>1870</u> psig	psig	psig
CASING / TUBING ANNULUS	PRESSURE RECORD		
0 minutes	<u>1030</u> psig	psig	psig
5 minutes	<u>1030</u> psig	psig	psig
10 minutes	<u>1030</u> psig	psig	psig
15 minutes	<u>1030</u> psig	psig	psig
20 minutes	<u>1030</u> psig	psig	psig
25 minutes	<u>1030</u> psig	psig	psig
30 minutes	<u>1031</u> psig	psig	psig
<u>4 Hours</u> minutes	<u>1030</u> psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? If Yes, _____ psig.



May 22, 2015

Don Breffle
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: Underground Injection Control (UIC)
Notice of Violation
Loss of Mechanical Integrity
EPA Permit #UT2736-04521
Well No. Ute Tribal 19-11
Antelope Creek Oil Field
Duchesne County, Utah

Dear Mr. Breffle:

Please be advised that on May 21, 2015 we lost Mechanical Integrity on the Ute Tribal 19-11 Injection Well. My direct number is 435-722-5302 if you wish to contact us.

Sincerely,
Petroglyph Operating Company, Inc.

Rodrigo Jurado
Regulatory Compliance Specialist

July 10, 2015

Don Breffle
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: Underground Injection Control (UIC)
Notice of Violation
Loss of Mechanical Integrity
EPA Permit # UT2736-04521
Well No. Ute Tribal 19-11
Antelope Creek Oil Field
Duchesne County, Utah

Dear Mr. Breffle:

Please be advised, this is the action we plan to take to fix the loss of integrity on the 19-11 injector: we are going to release the packer and pull the tubing, inspecting the tubing as it comes out of the hole, make a bit and scraper run past the perforations, and circulate and clean the well. We will re-perforate existing perforations and add new perforations. Existing perforations are the following: 4420-24, 4435-38, 4551-53, 4555-63, 4680-84, 4687-90 & 4835-41. We plan to shoot the following: 4420-26, 4432-42, 4550-64, 4680-84, 4686-92, 4780-83, 4830-44, 5154-58, 5193-97, 5202-10 & 5240-44. All perforations lie within the permitted injection interval of 3,610'-5,597'. No new perforations are being added above the current highest perforations. We will break down perfs, test their injection rates, then run in an Arrowset 1 Packer and perform an MIT on the casing to 1900psi. We will submit the results of the MIT for approval to re-inject. This work is expected to begin as soon as equipment becomes available. My direct number is 435-722-5302 if you wish to contact us.

Sincerely,
Petroglyph Operating Company, Inc.

Rodrigo Jurado
Regulatory Compliance Specialist

July 28, 2015

EPA
ATTN: Don Breffle
Region 8
1595 Wynkoop Street
Denver, CO 80202-8917

UIC Permit #UT2736-04521
Well ID: Ute Tribal 19-11
Ute Tribal No. 19-11, Duchesne County, Utah

Dear Mr. Breffle,

Please find enclosed the successful MIT test for the above referenced well. This test was performed to provide proof of integrity after we rigged up on the well to address a loss of mechanical integrity and perform workover operations.

On 7/13/2015 we rigged up, released the packer, pulled the tubing and scan logged it on the way out. We laid down the whole string. We picked up new tubing, made a bit and scraper run to PBTD, 5355' then circulated and cleaned the well. We then ran in hole and perforated the following: 4420'-26', 4432'-42', 4550'-64', 4680'-84', 4686'-92', 4780'-83', 4830'-44', 5154'-58', 5193'-97', 5202'-10', 5240'-44'. Existing perforations were: 4421'-24', 4435'-38', 4451'-53', 4455'-63', 4680'-84', 4687'-90', 4832'-41'. We isolated various intervals, broke down perfs then pulled all tools. We then ran in with a new Arrowset 1 Packer and new tubing, doping all joints on the way in and pressure tested the tubing and successfully performed an MIT on the casing to 1900 psi with no loss. Perforations were made using were Titan 3-1/8" perf guns containing 19 grams charges, 0.40" EHD, 26" TTP, 4 SPF @ 120° Phased.

Please let us know if there is a need for further action on our part and we will immediately comply. My direct number is 435-722-5302 if you wish to contact us.

Sincerely,

Rodrigo Jurado
Regulatory Compliance Spc

Encl: MIT

Mechanical Integrity Test Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 7/27/15
 Test conducted by: CHAD STEVENSON
 Others present: _____

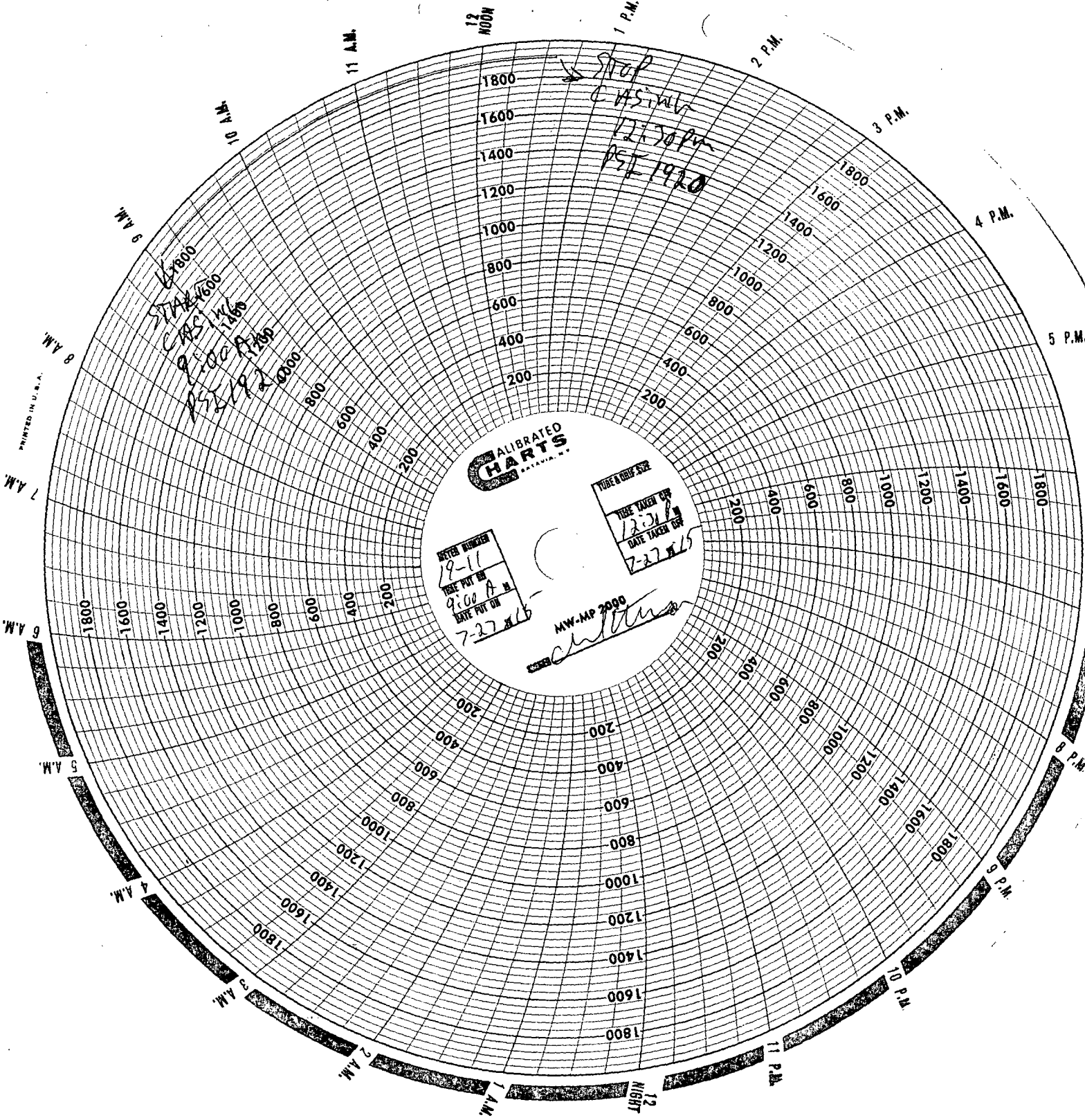
Well Name: <u>19-11</u>	Type: ER SWD	Status: AC TA UC
Field: <u>ANTELOPE CREEK</u>		
Location: <u>19-11</u> Sec: _____ T _____ N/S R _____ E/W County: <u>DUCHESNE</u> State: <u>UT</u>		
Operator: <u>PETROGLYPH ENERGY</u>		
Last MIT: _____ / _____ / _____		Maximum Allowable Pressure: _____ PSIG

Regularly scheduled test? ☐ Yes ☐ No
 Initial test for permit? ☐ Yes ☐ No
 Test after well rework? ☒ Yes ☐ No

Well injecting during test? If Yes, rate: _____ bpd
 Pre-test annulus pressure: _____ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING	PRESSURE RECORD		
Initial Pressure	674 psig	psig	psig
End of test pressure	674 psig	psig	psig
CASING / TUBING ANNULUS	PRESSURE RECORD		
0 minutes	1920 psig	psig	psig
5 minutes	1920 psig	psig	psig
10 minutes	1920 psig	psig	psig
15 minutes	1920 psig	psig	psig
20 minutes	1920 psig	psig	psig
25 minutes	1920 psig	psig	psig
30 minutes	1920 psig	psig	psig
3 1/2 hours	1920 psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	[] Pass [] Fail	[] Pass [] Fail	[] Pass [] Fail

Does the annulus pressure build back up after the test? If Yes, _____ psig.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
<http://www.epa.gov/region08>

AUG 07 2015

Ref: 8ENF-UFO

CERTIFIED MAIL 7009-3410-0000-2600-8435
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, Utah 84066

Re: Underground Injection Control (UIC)
Permission to Resume Injection
Tribal 19-11 Well
EPA Permit ID# UT20736-04521
API # 43-013-31967
Antelope Creek Oil Field
Duchesne County, Utah

Dear Mr. Farnsworth:

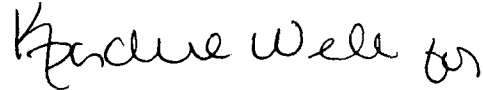
On August 4, 2015, the Environmental Protection Agency (EPA) received information from Petroglyph Operating Company, Inc. on the above referenced well concerning the workover to address a loss of mechanical integrity and the followup mechanical integrity test (MIT) conducted on July 27, 2015. The data submitted shows that the well passed the required MIT. Therefore, pursuant to Title 40 of the Code of Federal Regulations Section 144.51(q)(2) (40 C.F.R. § 144.51(q)(2)), permission to resume injection is granted. Under continuous service, the next MIT will be due on or before July 27, 2020.

Pursuant to 40 C.F.R. § 144.52(a)(6), if the well is not used for a period of at least two (2) years ("temporary abandonment"), it shall be plugged and abandoned unless the EPA is notified and procedures are described to the EPA ensuring the well will not endanger underground sources of drinking water ("non-endangerment demonstration") during its continued temporary abandonment. A successful MIT is an acceptable non-endangerment demonstration and would be necessary every two (2) years the well continues in temporary abandonment.

Failure to comply with a UIC Permit, or the UIC regulations found at 40 C.F.R. Parts 144 through 148 constitute one or more violations of the Safe Drinking Water Act, 42 U.S.C. § 300h. Such non-compliance may subject you to formal enforcement by the EPA, as codified at 40 C.F.R. Part 22.

If you have any questions concerning this letter, you may contact Gary Wang at (303) 312-6469. Please direct all correspondence to the attention of Gary Wang at Mail Code 8ENF-UFO.

Sincerely,

A handwritten signature in cursive script, appearing to read "Arturo Palomares".

Arturo Palomares, Director
Water Technical Enforcement Program
Office of Enforcement, Compliance
and Environmental Justice

cc: Shaun Chapoose, Chairman, Uintah & Ouray Business Committee
Edred Secakuku, Vice-Chairman, Uintah & Ouray Business Committee
Reannin Tapoof, Executive Assistant, Uintah & Ouray Business Committee

Units of Measurement: Standard

Water Analysis Report

Production Company: PETROGLYPH OPERATING CO INC - EBUS

Sales Rep: James Patry

Well Name: UTE TRIBAL 19-11 INJ, DUCHESNE

Lab Tech: Michele Pike

Sample Point: Well Head

Sample Date: 1/6/2016

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample ID: WA-327687

Sample Specifics		Analysis @ Properties in Sample Specifics			
		Cations	mg/L	Anions	mg/L
Test Date:	1/13/2016	Sodium (Na):	1069.44	Chloride (Cl):	1500.00
System Temperature 1 (°F):	60	Potassium (K):	0.07	Sulfate (SO ₄):	450.00
System Pressure 1 (psig):	2000	Magnesium (Mg):	86.38	Bicarbonate (HCO ₃):	732.00
System Temperature 2 (°F):	180	Calcium (Ca):	182.25	Carbonate (CO ₃):	
System Pressure 2 (psig):	50	Strontium (Sr):	4.76	Acetic Acid (CH ₃ COO)	
Calculated Density (g/ml):	1.0002	Barium (Ba):	0.44	Propionic Acid (C ₂ H ₅ COO)	
pH:	6.80	Iron (Fe):	20.46	Butanoic Acid (C ₃ H ₇ COO)	
Calculated TDS (mg/L):	4078.73	Zinc (Zn):	3.12	Isobutyric Acid ((CH ₃) ₂ CHCOO)	
CO ₂ in Gas (%):		Lead (Pb):	0.49	Fluoride (F):	
Dissolved CO ₂ (mg/L):	24.00	Ammonia NH ₃ :		Bromine (Br):	
H ₂ S in Gas (%):		Manganese (Mn):	0.12	Silica (SiO ₂):	29.20
H ₂ S in Water (mg/L):	0.00	Aluminum (Al):	0.07	Calcium Carbonate (CaCO ₃):	
Tot. Suspended Solids (mg/L):		Lithium (Li):	0.14	Phosphates (PO ₄):	3.36
Corrosivity (Langlier Sat. Indx)	0.00	Boron (B):	0.50	Oxygen (O ₂):	
Alkalinity:		Silicon (Si):	13.65		

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO ₄ ·2H ₂ O		Celestite SrSO ₄		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.74	66.95	0.56	0.19	0.00	0.00	1.93	14.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	0.57	52.95	0.58	0.19	0.00	0.00	1.74	14.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	0.46	43.51	0.61	0.20	0.00	0.00	1.60	14.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	0.36	34.18	0.66	0.20	0.00	0.00	1.47	14.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	0.26	25.08	0.71	0.21	0.00	0.00	1.33	14.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	0.17	16.33	0.77	0.22	0.00	0.00	1.20	13.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	0.08	8.04	0.85	0.22	0.00	0.00	1.07	13.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	0.00	0.32	0.94	0.23	0.00	0.00	0.94	12.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	0.00	0.00	1.05	0.24	0.00	0.00	0.81	12.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	0.00	0.00	1.18	0.25	0.00	0.00	0.69	11.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

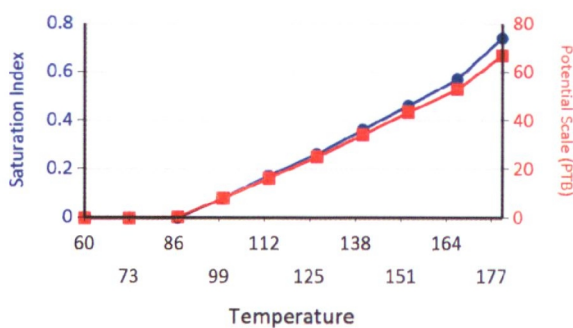
Water Analysis Report

Temp (°F)	PSI	Hemihydrate CaSO ₄ ~0.5H ₂ O		Anhydrate CaSO ₄		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.94	0.00	0.00	0.17	3.19	0.00	0.00	5.48	15.47
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	1.82	0.00	0.00	0.00	0.00	0.00	0.00	4.46	14.95
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	1.66	0.00	0.00	0.00	0.00	0.00	0.00	3.79	14.34
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	1.41	0.00	0.00	0.00	0.00	0.00	0.00	3.12	13.40
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.98	0.00	0.00	0.00	0.00	0.00	0.00	2.48	12.01
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.26	0.00	0.00	0.00	0.00	0.00	0.00	1.85	10.06
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	7.48
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	4.25
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.43
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

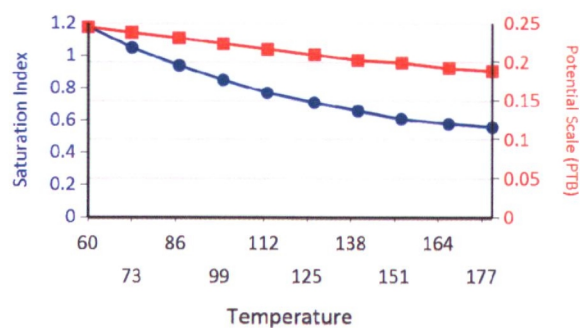
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Barium Sulfate Iron Carbonate

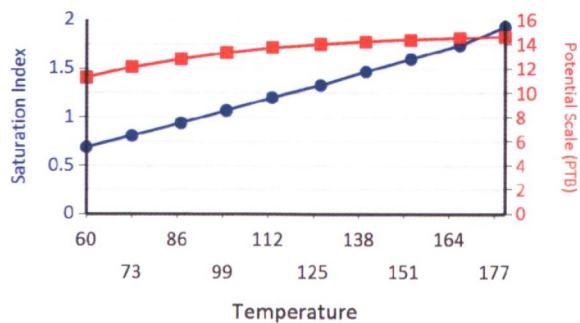
Calcium Carbonate



Barium Sulfate

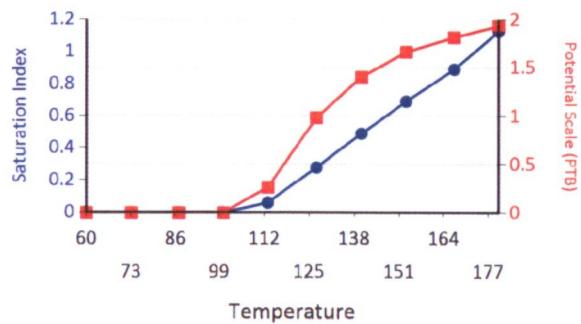


Iron Carbonate

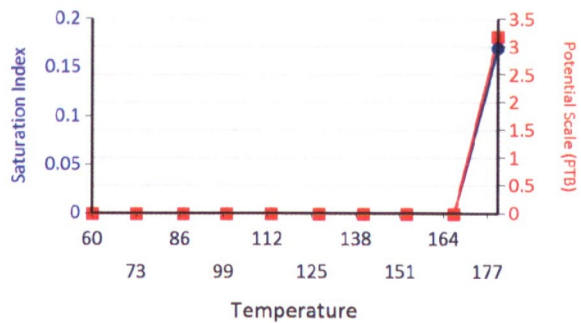


Water Analysis Report

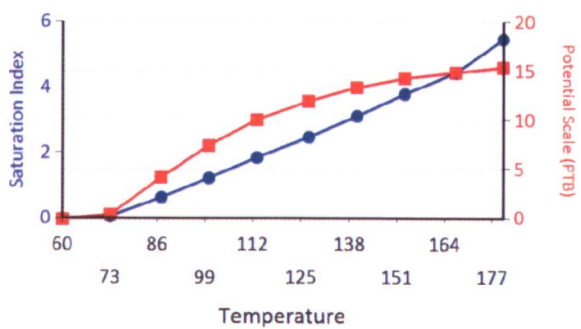
Zinc Carbonate



Mg Silicate



Fe Silicate





February 10, 2016

Underground Injection Control Enforcement
U.S. Environmental Protection Agency
Atten: Don Breffle / Gary Wang
1595 Wynkoop St.
Denver, CO 80202

RECEIVED

FEB 17 2016

Office of Enforcement, Compliance
and Environmental Justice (UFO)

Mr. Breffle and Mr. Wang:

Please find enclosed the following annual reporting materials from Petroglyph Operating Company, Inc., for its Antelope Creek Water Flood Program, Permit Number UT2736-00000:

- Annual Disposal/Injection Well Monitoring Report for each of the 111 wells
- Related supporting documentation, to include copies of notices and successful Mechanical Integrity Tests
- Water Analysis reports

During 2015, POI experienced a loss of mechanical integrity in the following wells:

- Ute Tribal 05-08
- Ute Tribal 05-10
- Ute Tribal 19-11
- Ute Tribal 21-04
- Ute Tribal 21-15
- Ute Tribal 29-12
- Ute Tribal 33-14D3

All wells were subsequently repaired and passed a Mechanical Integrity Test. Approvals were received for all wells.

Maximum Allowable Injection Pressure was exceeded for the Ute Tribal 16-07 (October 2015), Ute Tribal 18-14 (August 2015), Ute Tribal 29-12 (May-June 2015) as a result of performing step rate tests.

Thank you for your time. If any questions, please contact me at the following number: (208) 685-9711.

Best Regards,

Nicole Colby

Manager, Land & Regulatory Compliance; Petroglyph Energy, Inc.

PETROGLYPH OPERATING COMPANY, INC.



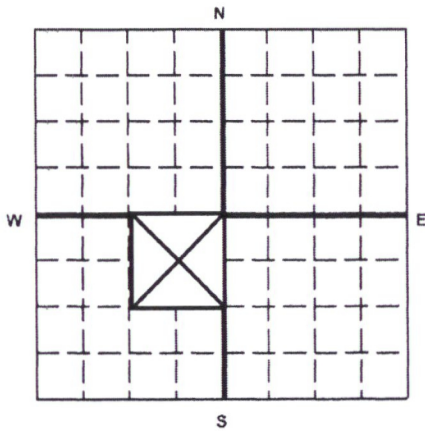
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



State
Utah

County
Duchesne

Permit Number
UT2736-04521

Surface Location Description

1/4 of 1/4 of NE 1/4 of SW 1/4 of Section 19 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location 2226 ft. from (N/S) S Line of quarter section
and 1484 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY

- ☐ Brine Disposal
☒ Enhanced Recovery
☐ Hydrocarbon Storage

TYPE OF PERMIT

- ☐ Individual
☒ Area

Number of Wells 111

Lease Name Ute Indian Tribe

Well Number UTE TRIBAL 19-11

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	14	1863	1879	1934		0	0
February	14	1873	1870	1771		0	0
March	14	1871	1886	1781		0	0
April	14	1897	1906	1741		0	0
May	14	1895	1901	1693		0	0
June	14	1878	1897	1489		0	0
July	14	1847	1885	1405		0	0
August	14	1855	1886	1411		0	0
September	14	1819	1823	1135		0	0
October	14	1869	1817	1266		0	0
November	14	1876	1875	1308		0	0
December	14	1879	1906	1412		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Chad Stevenson, Water Facilities Supervisor

Signature

Date Signed

2/10/2015

EPA Form 7520-11 (Rev. 12-08)

U2 Entered

Date 2/20/15

Initial Cw

	GREEN	BLUE	CBI
TAB		2	

Multi-Chem Analytical Laboratory

1553 East Highway 40

Vernal, UT 84078

Units of Measurement: Standard

multi-chem[®]

A HALLIBURTON SERVICE

Water Analysis Report

Production Company: PETROGLYPH OPERATING CO INC - EBUS

Well Name: UTE TRIBAL 19-11 INJ, DUCHESNE

Sample Point: WELLHEAD

Sample Date: 1/7/2015

Sample ID: WA-297438

Sales Rep: James Patry

Lab Tech: Gary Winegar

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
Test Date:	1/14/2015	Cations		Anions	
		mg/L		mg/L	
System Temperature 1 (°F):	160	Sodium (Na):	3289.28	Chloride (Cl):	6000.00
System Pressure 1 (psig):	1300	Potassium (K):	50.66	Sulfate (SO ₄):	163.00
System Temperature 2 (°F):	80	Magnesium (Mg):	21.01	Bicarbonate (HCO ₃):	1464.00
System Pressure 2 (psig):	15	Calcium (Ca):	37.61	Carbonate (CO ₃):	
Calculated Density (g/ml):	1.0045	Strontium (Sr):	5.65	Acetic Acid (CH ₃ COO)	
pH:	8.10	Barium (Ba):	14.61	Propionic Acid (C ₂ H ₅ COO)	
Calculated TDS (mg/L):	11079.42	Iron (Fe):	5.20	Butanoic Acid (C ₃ H ₇ COO)	
CO ₂ in Gas (%):		Zinc (Zn):	3.05	Isobutyric Acid ((CH ₃) ₂ CHCOO)	
Dissolved CO ₂ (mg/L):	0.00	Lead (Pb):	0.00	Fluoride (F):	
H ₂ S in Gas (%):		Ammonia NH ₃ :		Bromine (Br):	
H ₂ S in Water (mg/L):	5.00	Manganese (Mn):	0.17	Silica (SiO ₂):	25.18

Notes:

B=6.03 Al=0 Li=1.87

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO ₄ ·2H ₂ O		Celestite SrSO ₄		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	1.04	25.15	2.01	8.61	3.31	2.86	2.03	3.74	0.00	0.00	0.00	0.00	0.00	0.00	11.20	1.59
88.00	157.00	1.02	24.48	1.93	8.59	3.21	2.86	2.04	3.74	0.00	0.00	0.00	0.00	0.00	0.00	10.99	1.59
97.00	300.00	1.04	24.89	1.85	8.57	3.15	2.86	2.09	3.75	0.00	0.00	0.00	0.00	0.00	0.00	10.83	1.59
106.00	443.00	1.06	25.32	1.78	8.55	3.11	2.86	2.14	3.75	0.00	0.00	0.00	0.00	0.00	0.00	10.69	1.59
115.00	585.00	1.08	25.77	1.71	8.52	3.07	2.86	2.18	3.75	0.00	0.00	0.00	0.00	0.00	0.00	10.55	1.59
124.00	728.00	1.11	26.22	1.66	8.50	3.03	2.86	2.23	3.76	0.00	0.00	0.00	0.00	0.00	0.00	10.41	1.59
133.00	871.00	1.13	26.68	1.60	8.47	3.01	2.86	2.28	3.76	0.00	0.00	0.00	0.00	0.00	0.00	10.29	1.59
142.00	1014.00	1.16	27.13	1.55	8.44	2.99	2.86	2.32	3.76	0.00	0.00	0.00	0.00	0.00	0.00	10.18	1.59
151.00	1157.00	1.19	27.58	1.51	8.42	2.98	2.86	2.37	3.76	0.00	0.00	0.00	0.00	0.00	0.00	10.07	1.59
160.00	1300.00	1.22	28.02	1.47	8.39	2.97	2.86	2.41	3.76	0.00	0.00	0.00	0.00	0.00	0.00	9.97	1.59

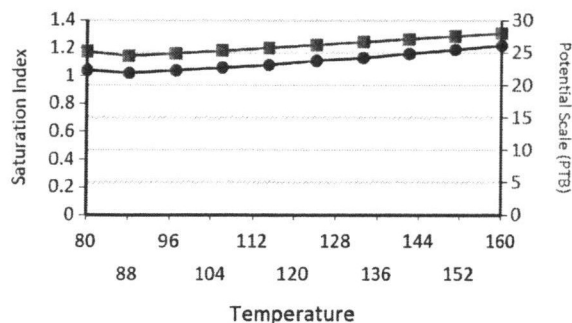
		Hemihydrate CaSO ₄ ·0.5H ₂ O		Anhydrite CaSO ₄		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	1.86	0.00	0.00	0.00	0.00	0.00	0.00	6.53	4.00
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16	1.90	0.00	0.00	0.00	0.00	0.00	0.00	6.54	4.00
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	1.94	0.00	0.00	0.27	1.47	0.00	0.00	6.77	4.01
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	1.97	0.00	0.00	0.67	3.49	0.00	0.00	7.01	4.01
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	1.98	0.00	0.00	1.07	5.57	0.05	0.49	7.27	4.02
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	2.00	0.00	0.00	1.49	7.70	0.28	1.76	7.53	4.02
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73	2.01	0.00	0.00	1.90	9.89	0.51	3.06	7.80	4.03
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	2.02	0.00	0.00	2.32	12.13	0.74	4.37	8.08	4.03
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	2.03	0.00	0.00	2.73	14.37	0.98	5.68	8.37	4.03
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	2.02	2.03	0.00	0.00	3.15	16.61	1.22	6.98	8.66	4.04

Water Analysis Report

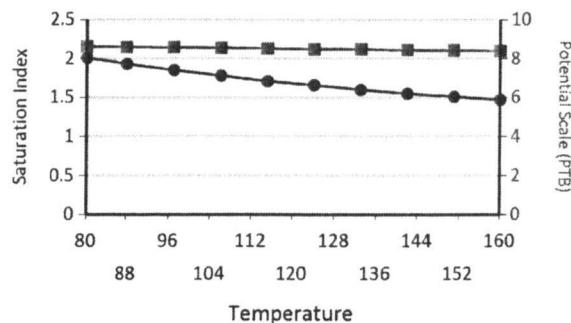
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

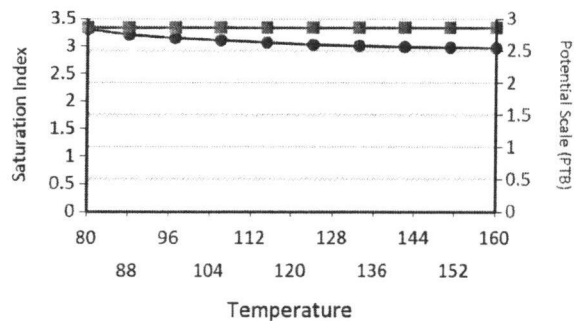
Calcium Carbonate



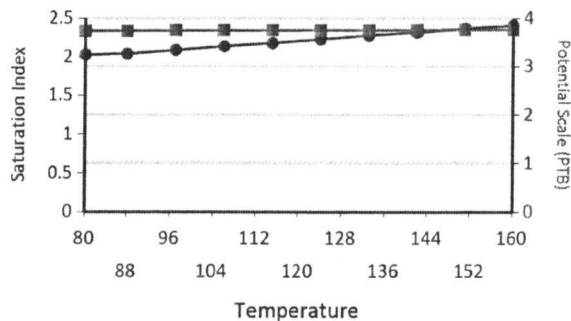
Barium Sulfate



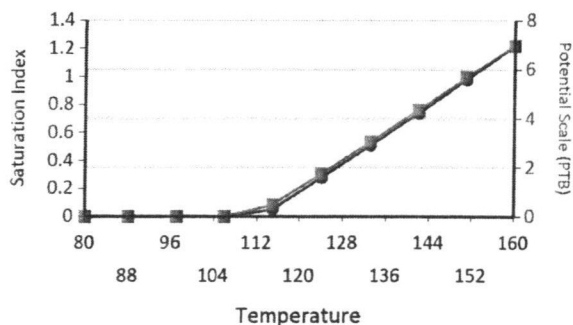
Iron Sulfide



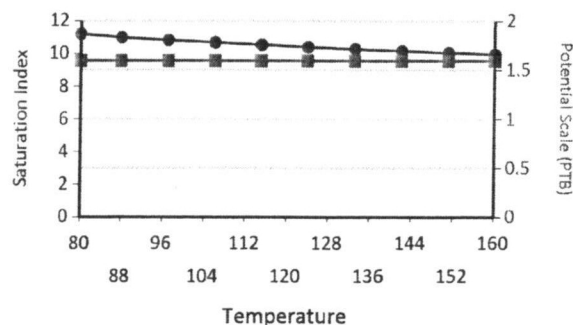
Iron Carbonate



Ca Mg Silicate

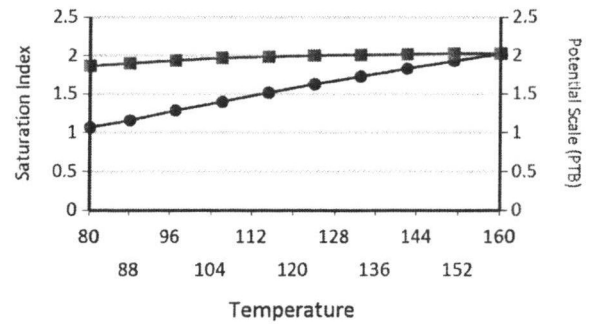


Zinc Sulfide

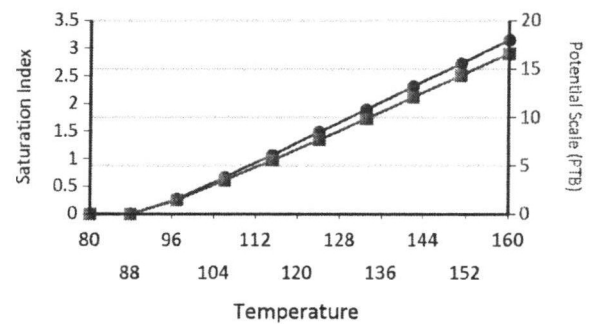


Water Analysis Report

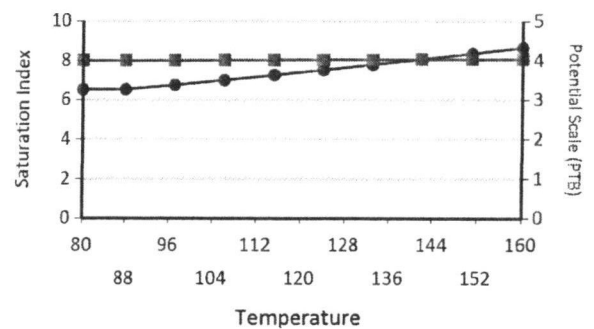
Zinc Carbonate



Mg Silicate



Fe Silicate



RECEIVED

JUL 13 2015

Office of Enforcement, Compliance
and Environmental Justice (UFO)

July 10, 2015

Don Breffle
 Mail Code: 8ENF-UFO
 US EPA Region 8
 1595 Wyncoop Street
 Denver, CO 80202-1129

RE: Underground Injection Control (UIC)
 Notice of Violation
 Loss of Mechanical Integrity
 EPA Permit # UT2736-04521
 Well No. Ute Tribal 19-11
 Antelope Creek Oil Field
 Duchesne County, Utah

Dear Mr. Breffle:

Please be advised, this is the action we plan to take to fix the loss of integrity on the 19-11 injector: we are going to release the packer and pull the tubing, inspecting the tubing as it comes out of the hole, make a bit and scraper run past the perforations, and circulate and clean the well. We will re-perforate existing perforations and add new perforations. Existing perforations are the following: 4420-24, 4435-38, 4551-53, 4555-63, 4680-84, 4687-90 & 4835-41. We plan to shoot the following: 4420-26, 4432-42, 4550-64, 4680-84, 4686-92, 4780-83, 4830-44, 5154-58, 5193-97, 5202-10 & 5240-44. All perforations lie within the permitted injection interval of 3,610'-5,597'. No new perforations are being added above the current highest perforations. We will break down perfs, test their injection rates, then run in an Arrowset 1 Packer and perform an MIT on the casing to 1900psi. We will submit the results of the MIT for approval to re-inject. This work is expected to begin as soon as equipment becomes available. My direct number is 435-722-5302 if you wish to contact us.

	GREEN	BLUE	CBI
TAE		2	

Sincerely,
 Petroglyph Operating Company, Inc.



Rodrigo Jurado
 Regulatory Compliance Specialist

July 28, 2015

EPA
ATTN: Don Breffle
Region 8
1595 Wynkoop Street
Denver, CO 80202-8917

UIC Permit #UT2736-04521
Well ID: Ute Tribal 19-11
Ute Tribal No. 19-11, Duchesne County, Utah

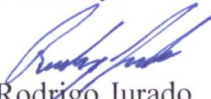
Dear Mr. Breffle,

Please find enclosed the successful MIT test for the above referenced well. This test was performed to provide proof of integrity after we rigged up on the well to address a loss of mechanical integrity and perform workover operations.

On 7/13/2015 we rigged up, released the packer, pulled the tubing and scan logged it on the way out. We laid down the whole string. We picked up new tubing, made a bit and scraper run to PBTD, 5355' then circulated and cleaned the well. We then ran in hole and perforated the following: 4420'-26', 4432'-42', 4550'-64', 4680'-84', 4686'-92', 4780'-83', 4830'-44', 5154'-58', 5193'-97', 5202'-10', 5240'-44'. Existing perforations were: 4421'-24', 4435'-38', 4451'-53', 4455'-63', 4680'-84', 4687'-90', 4832'-41'. We isolated various intervals, broke down perfs then pulled all tools. We then ran in with a new Arrowset 1 Packer and new tubing, doping all joints on the way in and pressure tested the tubing and successfully performed an MIT on the casing to 1900 psi with no loss. Perforations were made using were Titan 3-1/8" perf guns containing 19 grams charges, 0.40" EHD, 26" TTP, 4 SPF @ 120° Phased.

Please let us know if there is a need for further action on our part and we will immediately comply. My direct number is 435-722-5302 if you wish to contact us.

Sincerely,


Rodrigo Jurado
Regulatory Compliance Spc

Encl: MIT

	GREEN	BLUE	CBI
TAB		2	

U2 Entered

Date 8/5/15

Initial JB

Mechanical Integrity Test Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 7 127 115
Test conducted by: CHAD STEVENSON
Others present: _____

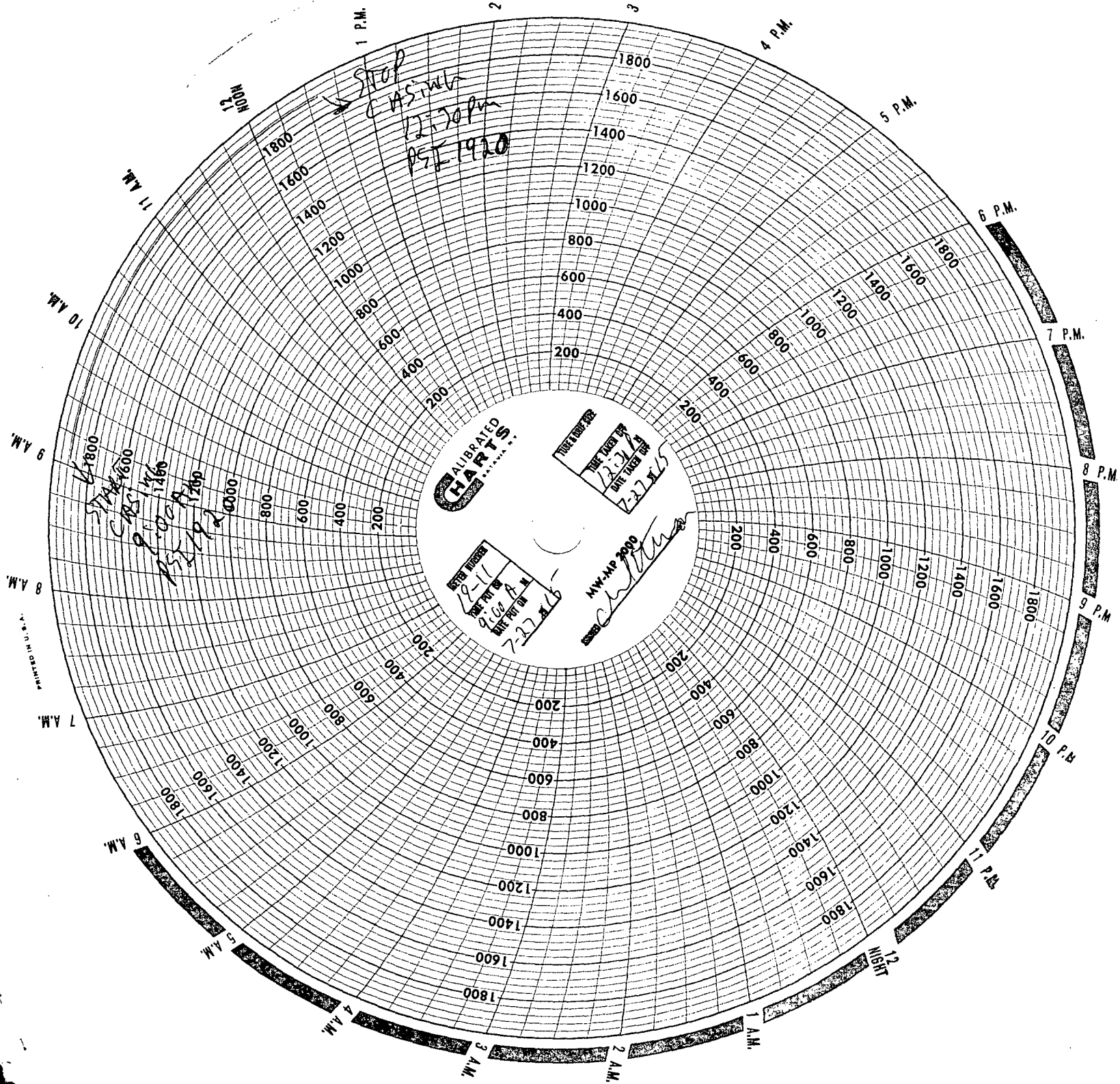
Well Name: <u>19-11</u>	Type: ER SWD	Status: AC TA UC
Field: <u>ANTELOPE CREEK</u>		
Location: <u>19-11</u> Sec: _____ T _____ N/S R _____ E/W County: <u>DUCHESNE</u> State: <u>UT</u>		
Operator: <u>PETROGLYPH ENERGY</u>		
Last MIT: <u>1</u> / <u>1</u>		Maximum Allowable Pressure: _____ PSIG

Regularly scheduled test? ☐ Yes ☐ No
Initial test for permit? ☐ Yes ☐ No
Test after well rework? ☒ Yes ☐ No

Well injecting during test? If Yes, rate: _____ bpd
Pre-test annulus pressure: _____ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING	PRESSURE RECORD		
Initial Pressure	<u>674</u> psig	psig	psig
End of test pressure	<u>674</u> psig	psig	psig
CASING / TUBING ANNULUS	PRESSURE RECORD		
0 minutes	<u>1920</u> psig	psig	psig
5 minutes	<u>1920</u> psig	psig	psig
10 minutes	<u>1920</u> psig	psig	psig
15 minutes	<u>1920</u> psig	psig	psig
20 minutes	<u>1920</u> psig	psig	psig
25 minutes	<u>1920</u> psig	psig	psig
30 minutes	<u>1920</u> psig	psig	psig
<u>3 1/2</u> hours minutes	<u>1920</u> psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? If Yes, _____ psig.



RECEIVED

MAR 23 2015

Office of Enforcement, Compliance
and Environmental Justice (UFO)

March 18, 2015

Don Breffle
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: EPA AREA PERMIT NO. **UT2736-04521**
Mechanical Integrity Test
Standard Five year retesting for Ute Tribal 19-11

Mr. Breffle:

The enclose Mechanical Integrity Test was performed on the above referenced well on March 8, 2015. This MIT was performed because the well was due for the regular five year Mechanical Integrity Test.

If you need any more information please call at (435) 722-5302.

Sincerely,
Petroglyph Operating Co., Inc.



Rodrigo Jurado
Regulatory Compliance Specialist

Encl: MIT for the Ute Tribal 19-11

	GREEN	BLUE	CBI
TAB		2	

U2 Entered

Date 4/3/15

Initial JB

Mechanical Integrity Test Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 3, 8, 15
Test conducted by: CHAD STEVENSON
Others present: _____

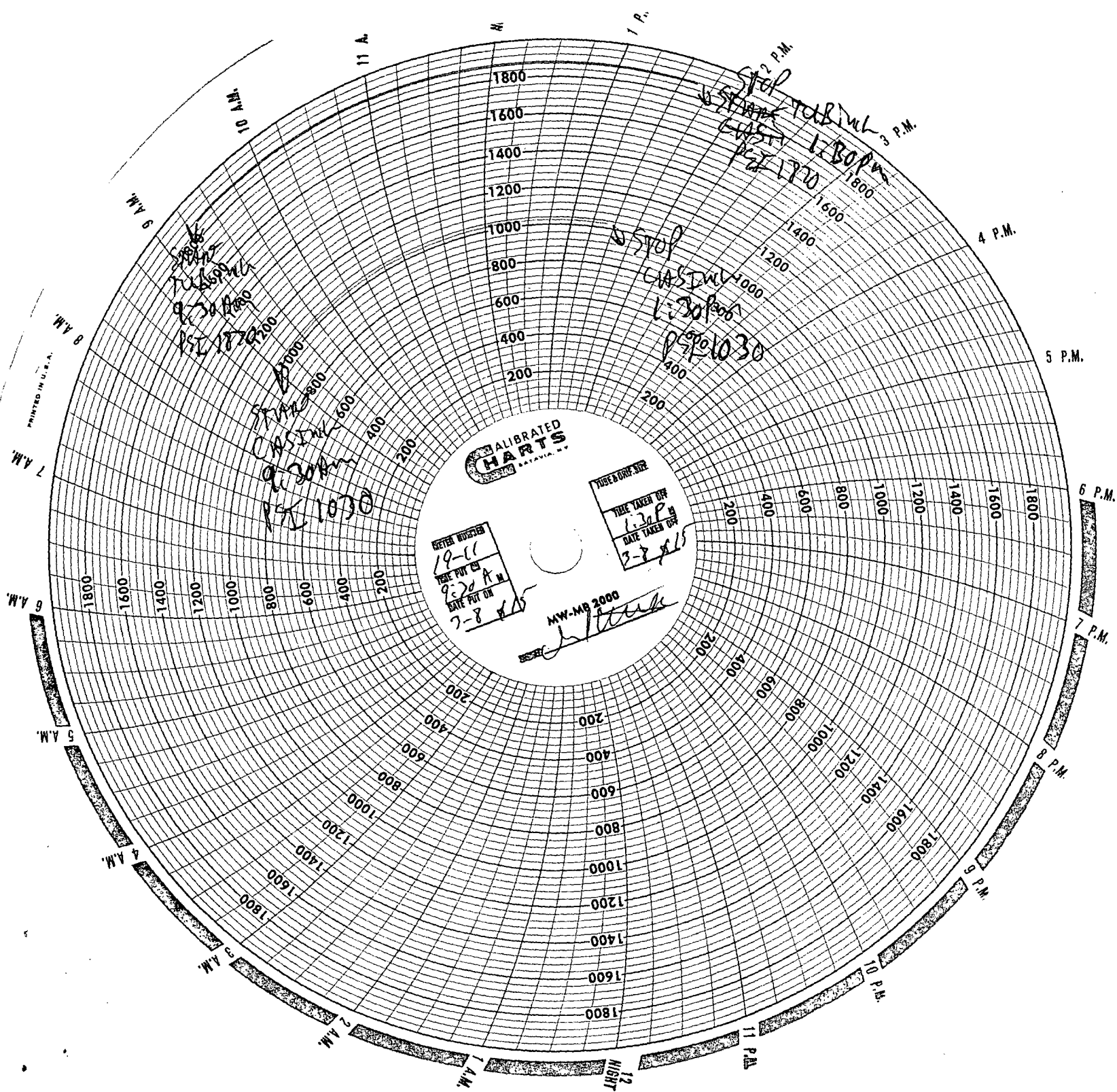
Well Name: <u>19-11</u>	Type: ER SWD	Status: AC TA UC
Field: <u>ANTELOPE CREEK</u>		
Location: <u>19-11</u> Sec: _____ T _____ N / S R _____ E / W County: <u>DUCHESNE</u> State: <u>UT</u>		
Operator: <u>PETROGLYPH ENERGY</u>		
Last MIT: <u>1</u> / <u>1</u>		Maximum Allowable Pressure: _____ PSIG

Regularly scheduled test? ☒ Yes [] No
Initial test for permit? [] Yes [] No
Test after well rework? [] Yes [] No

Well injecting during test? If Yes, rate: 41 bpd
Pre-test annulus pressure: _____ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING	PRESSURE RECORD		
Initial Pressure	<u>1870</u> psig	psig	psig
End of test pressure	<u>1870</u> psig	psig	psig
CASING / TUBING ANNULUS	PRESSURE RECORD		
0 minutes	<u>1030</u> psig	psig	psig
5 minutes	<u>1030</u> psig	psig	psig
10 minutes	<u>1030</u> psig	psig	psig
15 minutes	<u>1030</u> psig	psig	psig
20 minutes	<u>1030</u> psig	psig	psig
25 minutes	<u>1030</u> psig	psig	psig
30 minutes	<u>1030</u> psig	psig	psig
<u>4 Hours</u> minutes	<u>1030</u> psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	[] Pass [] Fail	[] Pass [] Fail	[] Pass [] Fail

Does the annulus pressure build back up after the test? If Yes, _____ psig.





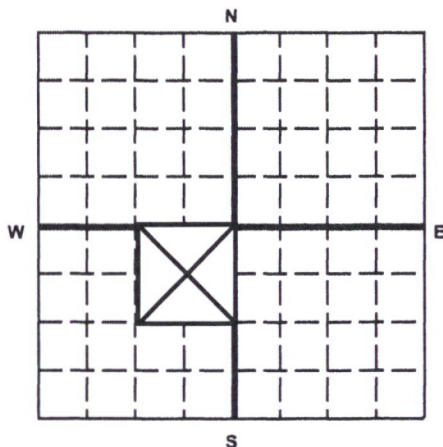
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on
Section Plat - 640 Acres



State Utah County Duchesne Permit Number UT2736-04521

Surface Location Description

1/4 of 1/4 of NE 1/4 of SW 1/4 of Section 19 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location 2226 ft. from (N/S) S Line of quarter section
and 1484 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY

- ☐ Brine Disposal
☒ Enhanced Recovery
☐ Hydrocarbon Storage

TYPE OF PERMIT

- ☐ Individual
☒ Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 19-11

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	13	1691	1872	224		0	0
February	13	1839	1900	212		0	0
March	13	1858	1900	296		0	0
April	13	1833	1916	227		0	0
May	13	1889	1905	287		0	0
June	13	1833	1910	227		0	0
July	13	1679	1887	204		0	0
August	13	1186	1648	1645		0	0
September	13	1797	1882	2616		0	0
October	13	1874	1911	2380		0	0
November	13	1869	1884	2178		0	0
December	13	1855	1869	2077		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Chad Stevenson, Water Facilities Supervisor

Signature

Date Signed

2/11/2014



U2 Entered

Date 3/20/14

Initial JB

Water Analysis Report

Production Company: PETROGLYPH ENERGY INC

Well Name: UTE TRIBAL 19-11 INJ

Sample Point: Wellhead

Sample Date: 1/8/2014

Sample ID: WA-262961

Sales Rep: James Patry

Lab Tech: Gary Winegar

Scaling potential predicted using ScaleSoftPitzer from
Brine Chemistry Consortium (Rice University)

Sample Specifics		Analysis @ Properties in Sample Specifics			
		Cations		Anions	
Test Date:	1/15/2014	mg/L		mg/L	
System Temperature 1 (°F):	180	Sodium (Na):	2229.65	Chloride (Cl):	3000.00
System Pressure 1 (psig):	1300	Potassium (K):	41.00	Sulfate (SO ₄):	323.00
System Temperature 2 (°F):	60	Magnesium (Mg):	47.00	Bicarbonate (HCO ₃):	976.00
System Pressure 2 (psig):	15	Calcium (Ca):	103.00	Carbonate (CO ₃):	
Calculated Density (g/ml):	1.002	Strontium (Sr):	4.30	Acetic Acid (CH ₃ COO)	
pH:	8.10	Barium (Ba):	3.00	Propionic Acid (C ₂ H ₅ COO)	
Calculated TDS (mg/L):	6752.84	Iron (Fe):	3.90	Butanoic Acid (C ₃ H ₇ COO)	
CO ₂ in Gas (%):		Zinc (Zn):	0.28	Isobutyric Acid ((CH ₃) ₂ CHCOO)	
Dissolved CO ₂ (mg/L):	0.00	Lead (Pb):	0.09	Fluoride (F):	
H ₂ S in Gas (%):		Ammonia NH ₃ :		Bromine (Br):	
H ₂ S in Water (mg/L):	0.00	Manganese (Mn):	0.22	Silica (SiO ₂):	21.40

Notes:

B=3 Al=0 Li=.59

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO ₄ ·2H ₂ O		Celestite SrSO ₄		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	1.26	46.95	1.97	1.77	0.00	0.00	1.58	2.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	1.26	45.94	1.82	1.76	0.00	0.00	1.63	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	1.29	48.11	1.69	1.75	0.00	0.00	1.72	2.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	1.32	50.53	1.58	1.74	0.00	0.00	1.80	2.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	1.37	53.17	1.48	1.73	0.00	0.00	1.88	2.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	1.41	56.00	1.40	1.71	0.00	0.00	1.96	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	1.46	58.94	1.33	1.70	0.00	0.00	2.04	2.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1014.00	1.52	61.97	1.27	1.69	0.00	0.00	2.12	2.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	1157.00	1.58	65.01	1.22	1.68	0.00	0.00	2.19	2.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	1300.00	1.64	68.01	1.18	1.67	0.00	0.00	2.27	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

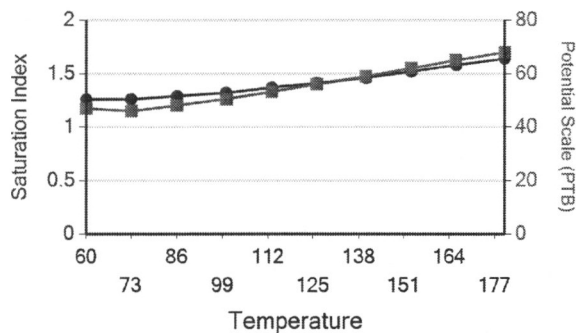
Water Analysis Report

Temp (°F)	PSI	Hemihydrate CaSO ₄ ·0.5H ₂ O		Anhydrate CaSO ₄		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
		SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.31	2.93
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.19	0.00	0.00	5.45	2.94
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	2.36	0.00	0.00	5.80	2.97
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.07	0.00	0.00	1.26	4.75	0.28	1.18	6.18	2.98
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.11	0.00	0.00	1.89	7.40	0.63	2.59	6.60	3.00
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.13	0.00	0.00	2.54	10.34	0.99	4.09	7.03	3.01
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.15	0.00	0.00	3.19	13.50	1.36	5.64	7.47	3.02
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.16	0.00	0.00	3.85	16.75	1.74	7.20	7.93	3.02
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.17	0.00	0.00	4.50	19.80	2.11	8.69	8.39	3.02
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.18	0.00	0.00	5.14	22.33	2.48	10.01	8.85	3.03

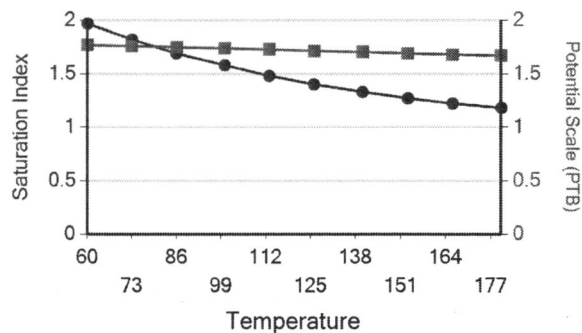
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

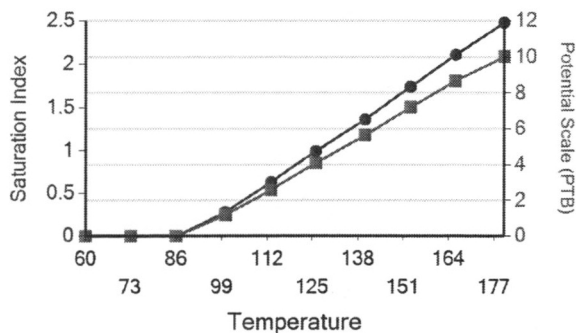
Calcium Carbonate



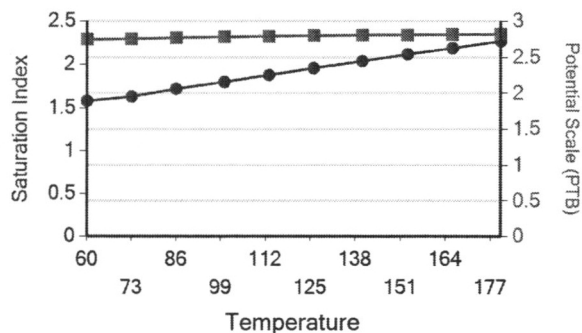
Barium Sulfate



Ca Mg Silicate

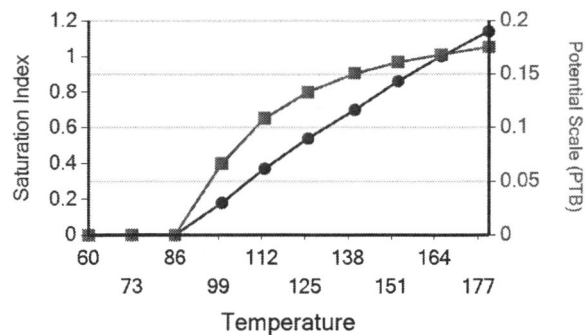


Iron Carbonate

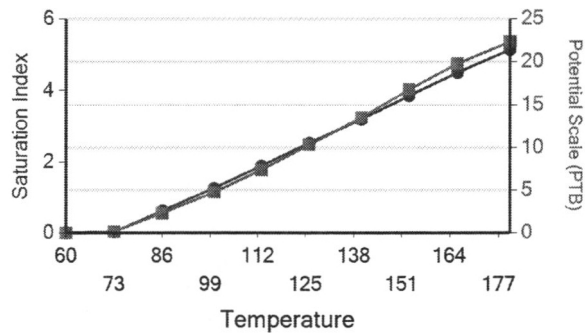


Water Analysis Report

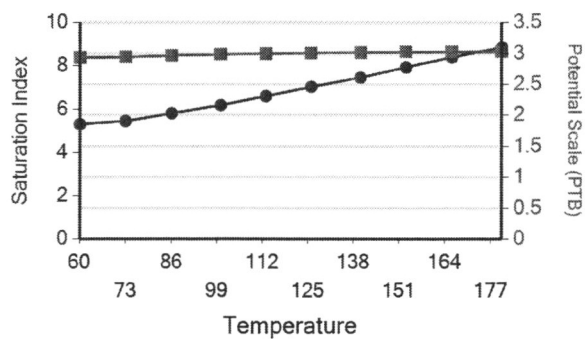
Zinc Carbonate



Mg Silicate



Fe Silicate



UT 4521



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

SEP 7 2001

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

RE: UNDERGROUND INJECTION CONTROL (UIC)
APPROVAL TO INCREASE MAXIMUM
SURFACE INJECTION PRESSURE
EPA Area Permit No. UT2736-00000
Ute Tribal No. 19-11
EPA Well Authority No. UT04521
Antelope Creek Waterflood
Duchesne County, Utah

Dear Mr. Safford:

The Environmental Protection Agency (EPA) Antelope Creek Final Area Permit UT2736-00000 (Effective July 12, 1994) Part II, Section C. 5. (b), permits the "Director" to authorize, by letter, an increase in the maximum surface injection pressure (MIP) for the Ute Tribal No. 19-11, following receipt and approval of a valid step-rate test (SRT).

On August 3, 2001, Petroglyph Energy, Inc. (Petroglyph) submitted an SRT to the EPA, dated July 16, 2001. The SRT was received by the EPA on August 10, 2001. The SRT was reviewed and approved by the EPA on August 10, 2001. The SRT shows the fracture gradient (FG) for the Green River Formation injection interval between the approximate depths of 4,421' and 5,544' to be 0.875 psi/ft.

As of the date of this letter, the EPA authorizes an increase in the maximum surface injection pressure (MSIP) from 1900 psig to 1935 psig. The following modified injection pressure will provide for higher injectivity capacity which will improve the waterflood efficiency without endangering any underground sources of drinking water (USDWs).



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UT 4521



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

SEP 7 2001

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

*Scan under
UT20736-04521
2/B MAIP Change
August 9/7/2001*

RE: UNDERGRO
APPROVAL
SURFAC
EPA Area
Ute Trib
EPA Well Authority No. UT04521
Antelope Creek Waterflood
Duchesne County, Utah

Dear Mr. Safford:

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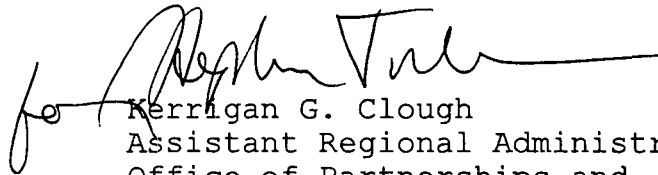
FG = 0.875 psi/ft
D = 4421 feet: top of perforations
SG = Specific gravity of injectate: 1.01
0.433 = Density of injectate fluid
MIP = [(0.875) - (.433)(1.01)] 4421

MSIP = 1935 psig

Please send all compliance correspondence relative to this well to the **ATTENTION: Nathan Wiser, at the letterhead address, citing Mail Code: 8ENF-T very prominently.** You may call Mr. Wiser at 303.312.6211.

All other provisions and conditions of the Permit remain as originally issued July 12, 1994 and Revised April 30, 1998.

Sincerely,



Kerrigan G. Clough
Assistant Regional Administrator
Office of Partnerships and
Regulatory Assistance

cc: Mr. D. Floyd Wopsock, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Coordinator
Ute Indian Tribe

Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

Mr. Nathan Wiser 8ENF-T
USEPA

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 		A. Received by (Please Print Clearly) B. Date of Delivery C. Signature <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
1. Article Addressed to: 9/07/01 CW 4169C Mr. Micheal Safford Operation Coordinator Petroglyph Operating Co., Inc. P.O. Box 607 Roosevelt, UT 84066 SEP 7 2001 (UT2736-04521) UTE TRIBAL NO. 19-11		SEP 14 2001 (reid)	
2. Article Number (Copy from service label)		3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D. 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, July 1999		Domestic Return Receipt 102595-00-M-0952	

U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)	
OFFICIAL USE	
Postage \$	Postmark Here SEP 7 2001
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees \$	
Sent To Mr. Micheal Safford Operation Coordinator Petroglyph Operating Co., Inc. P.O. Box 607 Roosevelt, UT 84066	
PS Form 3800, January 2001 See Reverse for Instructions	

Step Rate Test (SRT) Analysis

Date: 08/27/01

Operator: Petroglyph Energy, Inc.

Well: Ute Tribal 19-11

Permit #: UT2736-04521

Enter the following data :

Specific Gravity (SG) of injectate	1.01	g/cc
Depth to top perforation(D)	4421	feet
Depth to Top of permitted injection zone		feet
Estimated Formation Parting Pressure (Pfp) from SRT chart	1935	psi
Instantaneous Shut In Pressure (ISIP) from SRT	2020	psi
Bottom Hole Parting Pressure (from downhole pressure recorder)		psi

1935

Part One - Calculation of Fracture Gradient (F G)

Calculated Fracture Gradient = 0.875 psi/ft.

$FG = P_{bhp} / \text{Depth (D) of top perforation}$
(Uses downhole recorded bottom hole parting pressure when available)

0.875

Calculated Bottom Hole Parting Pressure = 3868 psi

$\text{Calculated } P_{bhp} = \text{Formation Fracture Pressure} + (0.433 * SG * D)$
(Use lesser of ISIP or Pfp) value used= 1935

3868

Part Two - Calculation of Maximum Surface Injection Pressure (M S I P)

Maximum Surface Injection Pressure = 1935 psig

(rounded down to nearest 5 psig)

$MSIP = [FG - (0.433 * SG)] * \text{Depth to top of permitted injection zone (or top perforation)}$

4421

1935

Action: MINOR MODIFICATION

To:		Mailcode	Initials	Date
1. Permit Writer	<i>Chuck Williams</i>	8P-W-GW	<i>CW.</i>	8/27/01
2. Technical Review	<input checked="" type="checkbox"/> DWJ <input type="checkbox"/> PSO <input type="checkbox"/> CT	8P-W-GW		
3. L. Clutts	proof read	8P-W-GW	<i>LC</i>	8/30/01
4. D. Hogle	concurrence	8P-W-GW	<i>DH</i>	9/2/01
5. L. Johnson	proof read	8P-W	<i>LJ</i>	9/5/01
6. S. Tuber	concurrence	8P-W	<i>ST</i>	9/5
7. <u>Kerrigan Clough</u>	SIGNATURE (DO NOT DATE)	8P-ARA	<i>ST</i>	9/5
8. L. Clutts	date stamp & mail documents	8P-W-GW	<i>LC</i>	9/07/01
9. Permit Writer	<i>CW</i> <i>LC</i> make copies	8P-W-GW	<i>LC</i>	9/07/01
10. L. Clutts	mail copies	8P-W-GW	<i>LC</i>	9/07/01
11. Permit Writer	<i>CW.</i> File	8P-W-GW		

Well Name: Ute Tribal #19-11 Reservation: U/OUIC Permit Number: UT 2736-04521 Applicant: PetroglyphContents of routing package for: MINOR MODIFICATIONLEFT SIDE

- Concurrence copy of Cover Letter
- Reading File copy of Cover Letter
-
- FORM *3*
- Applicant Request Letter and Supporting Documentation
- Mailing List

RIGHT SIDE

- Cover Letter (Signature)
- Modification(s) to Permit (Signature)
-

COMMENTS: Increase Max. Surface Inj. Press. (MSIP)Permit Writer: Chuck Williams



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

SEP 7 2001

CONCURRENCE COPY

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

RE: UNDERGROUND INJECTION CONTROL (UIC)
APPROVAL TO INCREASE MAXIMUM
SURFACE INJECTION PRESSURE
EPA Area Permit No. UT2736-00000
Ute Tribal No. 19-11
EPA Well Authority No. UT04521
Antelope Creek Waterflood
Duchesne County, Utah

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Concur

CEW
8/27/01

8P-W-GW
8/29/01

8P-W-GW
8/30/01 LG
mailed
9/07/01

8P-W
9/5/01



Printed on Recycled Paper

FG = 0.875 psi/ft
D = 4421 feet: top of perforations
SG = Specific gravity of injectate: 1.01
0.433 = Density of injectate fluid
MIP = $[(0.875) - (.433)(1.01)] 4421$

MSIP = 1935 psig

Please send all compliance correspondence relative to this well to the **ATTENTION: Nathan Wiser, at the letterhead address, citing Mail Code: 8ENF-T very prominently.** You may call Mr. Wiser at 303.312.6211.

All other provisions and conditions of the Permit remain as originally issued July 12, 1994 and Revised April 30, 1998.

Sincerely,

Kerrigan G. Clough
Assistant Regional Administrator
Office of Partnerships and
Regulatory Assistance

cc: Mr. D. Floyd Wopsock, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Coordinator
Ute Indian Tribe

Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

Mr. Nathan Wiser 8ENF-T
USEPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

AUG 9 2000

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

Re: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #19-11 (UT04521)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #19-11 to the Environmental Protection Agency (EPA) Region VIII Groundwater Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. Well Rework Record (EPA Form 7520-12) with after conversion well schematic,
2. Successfully run Mechanical Integrity Test (MIT) with pressure chart,
3. Injection zone fluid pore pressure survey.

All required information has been submitted, and has been reviewed and approved by the EPA. Petroglyph has complied with all pertinent conditions of UIC Area Permit UT2736-00000 Part II Section (C)(2). Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal #19-11 under the conditions of UIC Permit UT2736-00000. The Director has determined that the maximum surface injection pressure for the Ute Tribal #19-11 shall not exceed 1900 psig.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 1
DENVER, CO 80202-2461

AUG 9 2000

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

Re: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #19-11 (UT04521)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Scan under
UT 30736 - 04521
220 Authorization to
Inject - Final 8/9/2000

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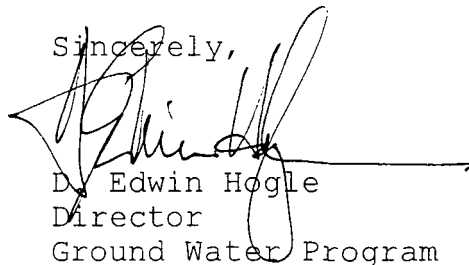
Please be reminded that it is the responsibility of the permittee to be aware of, and to comply with, all conditions of the Permit. Effective upon receipt of this letter, EPA administration of this well is transferred to Mr. Al Craver Compliance Officer in the Office of Enforcement, Compliance, and Environmental Justice Technical Enforcement Program, who is your point of contact for routine compliance matters and reports.

Please send all reporting forms and other required correspondence to Mr. Craver at the address listed below, referencing **EPA WELL ID: UT04521** on all reports and correspondence or contact Mr. Craver at 303.312.7821.

Mr. Al Craver,
Technical Enforcement Program, Mail Code 8ENF-T
U.S. Environmental Protection Agency
999 18th Street, Suite 500
Denver, Colorado, USA, 80202-2466

If you have any questions concerning this authorization or the Permit, please contact Mr. Dan Jackson of my staff at 303.312.6155.

Sincerely,



D. Edwin Hogle
Director
Ground Water Program

cc: Mr. Ronald Wopsock, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

Is your RETURN ADDRESS completed on the reverse side?

SENDER: 8/9/00 CW 3781C

AUG 10 2000

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

Att. Tribal #19-11

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Co., INC.
P.O. Box 607
Roosevelt, UT 84066

4a. Article Number

Z 153 032 647

4b. Service Type

- | | |
|---|---|
| <input type="checkbox"/> Registered | <input checked="" type="checkbox"/> Certified |
| <input type="checkbox"/> Express Mail | <input type="checkbox"/> Insured |
| <input type="checkbox"/> Return Receipt for Merchandise | <input type="checkbox"/> COD |

7. Date of Delivery

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X Micheal Safford

8. Addressee's Address (Only if requested and fee is paid)

mid 24

AUG 18 2000

PS Form 3811, December 1994

102595-97-B-0179

Domestic Return Receipt

Thank you for using Return Receipt Service.

Z 153 032 647

US Postal Service 8/9/00 CW 3781C

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to	
Mr. Micheal Safford	
Operations Coordinator	
Petroglyph Operating Co., INC.	
P.O. Box 607	
Roosevelt, UT 84066	
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, April 1995



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

AUG 9 2000

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

Re: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #19-11 (UT04521)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #19-11 to the Environmental Protection Agency (EPA) Region VIII Groundwater Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. Well Rework Record (EPA Form 7520-12) with after conversion well schematic,
2. Successfully run Mechanical Integrity Test (MIT) with pressure chart,
3. Injection zone fluid pore pressure survey.

All required information has been submitted, and has been reviewed and approved by the EPA. Petroglyph has complied with all pertinent conditions of UIC Area Permit UT2736-00000 Part II Section (C)(2). Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal #19-11 under the conditions of UIC Permit UT2736-00000. The Director has determined that the maximum surface injection pressure for the Ute Tribal #19-11 shall not exceed 1900 psig.



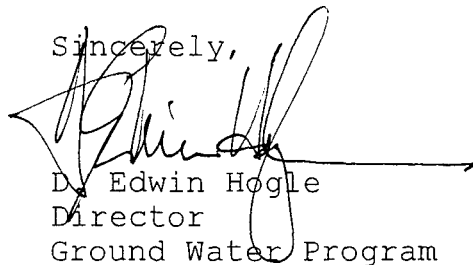
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U.S. Environmental Protection Agency
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Denver, Colorado, USA, 80202-2466

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Sincerely,



D. Edwin Hogle
Director
Ground Water Program

cc: Mr. Ronald Wopsock, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

CONCURRENCE COPY

Ref: 8P-W-GW

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RETURN RECEIPT REQUESTED

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8P-W-GW
Dugan
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8/9/00 LG

Hale
8/9/00
SHWGW



Printed on Recycled Paper

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